Baskar
10/034502

-key Terms

FILE 'HCAPLUS' ENTERED AT 11:20:12 ON 10 APR 2003
L1 6 S (LAWSON? OR L)(W)INTRACELL? AND (OMP OR OUTER MEMBRAN? PROTEIN)
L2 14 S (LAWSON? OR L)(W)INTRACELL? AND ANTIGEN?
L3 15 S L1 OR L2

L3 ANSWER 1 OF 15 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:503432 HCAPLUS
DOCUMENT NUMBER: 137:77871
TITLE: Cloning of genes for novel **Lawsonia intracellularis outer membrane proteins** and their use in preparing vaccines for porcine proliferative enteropathy
INVENTOR(S): Jacobs, Antonius A. C.; Vermeij, Paul
PATENT ASSIGNEE(S): Akzo Nobel N.V., Neth.
SOURCE: Eur. Pat. Appl., 26 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1219711	A2	20020703	EP 2001-204919	20011214
EP 1219711	A3	20021106		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2003000276	A2	20030107	JP 2001-385373	20011219
AU 2001097371	A5	20020627	AU 2001-97371	20011220

PRIORITY APPLN. INFO.: EP 2000-204660 A 20001220

AB The present invention relates i.a. to nucleic acid sequences encoding novel **Lawsonia intracellularis** proteins. It furthermore relates to DNA fragments, recombinant DNA mols. and live recombinant carriers comprising these sequences. Also it relates to host cells comprising such nucleic acid sequences, DNA fragments, recombinant DNA mols. and live recombinant carriers. Moreover, the invention relates to proteins encoded by these nucleotide sequences. The invention also relates to vaccines for combating **Lawsonia intracellularis** infections and methods for the prepn. thereof. Finally the invention relates to diagnostic tests for the detection of **Lawsonia intracellularis** DNA, the detection of **Lawsonia intracellularis antigens** and of antibodies against **Lawsonia intracellularis**.

L3 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:415165 HCAPLUS
DOCUMENT NUMBER: 137:137337
TITLE: LsaA, an **antigen** involved in cell attachment and invasion, is expressed by **Lawsonia intracellularis** during infection in vitro and in vivo
AUTHOR(S): McCluskey, Jackie; Hannigan, Joanne; Harris, Jennifer D.; Wren, Brendan; Smith, David G. E.
CORPORATE SOURCE: Zoonotic & Animal Pathogens Research Laboratory, Department of Medical Microbiology, University

of Edinburgh, Edinburgh, UK
SOURCE: Infection and Immunity (2002), 70(6), 2899-2907
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Lawsonia intracellularis** has been identified recently as the etiol. agent of proliferative enteropathies, which are characterized by intestinal epithelial hyperplasia and assocd. moderate immune responses. This disease complex has been reported in a broad range of animals, prevalently in pigs, and **L. intracellularis** has been linked with ulcerative colitis in humans. **L. intracellularis** is an obligate intracellular bacterium, and the pathogenic mechanisms used to cause disease are unknown. Using in vitro-grown organisms as a source of genomic DNA, we identified a Lawsonia gene which encodes a surface **antigen**, LsaA (for Lawsonia surface **antigen**), assocd. with attachment to and entry into cells. The deduced amino acid sequence of this protein showed some similarity to members of a novel protein family identified in a no. of other bacterial pathogens but for which roles are not fully defined. Transcription of this gene was detected by reverse transcription-PCR in **L. intracellularis** grown in vitro in IEC18 cells and in bacteria present in ileal tissue from infected animals. Immunohistochem. with specific monoclonal antibody and immunoblotting with sera from infected animals demonstrated that LsaA protein is synthesized by **L. intracellularis** during infection. Expression of this gene during infection in vitro and in vivo suggests that this surface **antigen** is involved during infection, and phenotypic anal. indicated a role during **L. intracellularis** attachment to and entry into intestinal epithelial cells.

REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 15 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:368499 HCAPLUS
DOCUMENT NUMBER: 136:382847
TITLE: Genes for **antigenic** proteins of Lawsonia and their use diagnosis and prophylaxis of Lawsonia infection
INVENTOR(S): Rosey, Everett Lee; King, Kendall Wayne; Good, Robert Trygve; Strugnell, Richard Anthony
PATENT ASSIGNEE(S): Agriculture Victoria Services Pty. Ltd., Australia; Australian Pork Limited; Pfizer Products, Inc.
SOURCE: PCT Int. Appl., 155 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002038594	A1	20020516	WO 2001-AU1462	20011109
WO 2002038594	C2	20021107		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2002014810 A5 20020521 AU 2002-14810 20011109
PRIORITY APPLN. INFO.: AU 2000-1381 A 20001110
US 2000-249596P P 20001117
WO 2001-AU1462 W 20011109

AB The present invention relates generally to therapeutic compns. for the treatment and/or prophylaxis of intestinal disease conditions in animals and birds caused or exacerbated by **Lawsonia intracellularis** or similar or otherwise related microorganisms. In particular, the present invention provides a novel gene derived from **Lawsonia intracellularis**, which encodes an immunogenic polypeptide that is particularly useful as an **antigen** in a vaccine prepn. for conferring humoral immunity against **Lawsonia intracellularis** and related pathogens in animal hosts, wherein said polypeptide is selected from the group consisting of flhB, fliR, ntrC, glnH, motA, motB, tlyC, ytfM, and ytfN polypeptides, or a homolog, analog or deriv. of any one or more of said polypeptides. The present invention is also directed to methods for the treatment and/or prophylaxis of such intestinal disease conditions and to diagnostic agents and procedures for detecting **Lawsonia intracellularis** or similar or otherwise related microorganisms.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 4 OF 15 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:256061 HCAPLUS
DOCUMENT NUMBER: 136:261820
TITLE: Swine vaccines for proliferative ileitis comprising **Lawsonia intracellularis antigens**
PATENT ASSIGNEE(S): Arizona Board of Regents on Behalf of the University of Arizona, USA
SOURCE: PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002026250	A2	20020404	WO 2001-US30284	20010927

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,

LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2001093151	A5	20020408	AU 2001-93151		20010927
PRIORITY APPLN. INFO.:			US 2000-677108	A	20000929
			WO 2001-US30284	W	20010927

AB A proliferative ileitis vaccine comprising tissue culture grown **Lawsonia intracellularis** and methods of making said vaccines. Proliferative ileitis vaccines described include those contg. whole **L. intracellularis**, exts. of **L. intracellularis**, protective immunogenic submits of **L. intracellularis**, recombinant immunogens of **L. intracellularis** and naked DNA of **L. intracellularis**. The vaccines of this invention may be inactivated or modified live and contain adjuvants and/or stabilizers. The vaccines of this invention may be in a liq. or lyophilized form. Also disclosed are monoclonal antibodies which neutralize the growth of **L. intracellularis** and which may be used for diagnosing proliferative ileitis as well as for quantitating **antigen** during vaccine prodn.

L3 ANSWER 5 OF 15 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:297553 HCAPLUS
DOCUMENT NUMBER: 134:321599
TITLE: Cloning of Lawsonia genes htrA, ponA, hypC, lysS, ycfW, abc1, and omp100, their encoded proteins or peptides and therapeutic use in diagnosis and as vaccine
INVENTOR(S): Rosey, Everett Lee
PATENT ASSIGNEE(S): Pfizer Products Inc., USA
SOURCE: Eur. Pat. Appl., 80 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1094070	A2	20010425	EP 2000-309125	20001017
EP 1094070	A3	20020109		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001169787	A2	20010626	JP 2000-320736	20001020
US 2003021802	A1	20030130	US 2002-210296	20020801
PRIORITY APPLN. INFO.:			US 1999-160922P P	19991022
			US 1999-163858P P	19991105
			US 2000-689065 A1	20001012

AB The present invention relates generally to therapeutic compns. for the treatment and/or prophylaxis of intestinal disease conditions in pigs or other animals caused or exacerbated by **Lawsonia intracellularis** or similar or otherwise related microorganism, such as porcine proliferative enteropathy (PPE). In particular, the present invention provides novel genes htrA, ponA,

hypC, lysS, ycfW, abc1, and omp100 derived from **Lawsonia intracellularis** genomic regions A and B. These genes encode sequence homologs to lysyl-tRNA synthetase (gene lysS), transmembrane or integral membrane protein (abc1), hydrogenase maturation protein (hypC), penicillin binding protein (ponA), and periplasmic serine protease protein (htrA) resp. The invention also relates to constructing these gene expression vector to produce recombinant protein using E. coli. Methods of expressing recombinant htrA and omp100 proteins in E. coli are also provided. The invention also provides the immunogenic peptides or proteins encoded by these genes that are particularly useful as an **antigen** in vaccine prepn. for conferring humoral immunity against **Lawsonia intracellularis** and related pathogens in animal hosts. The present invention is also directed to methods for the treatment and/or prophylaxis of such intestinal disease conditions and to diagnostic agents and procedures for detecting **Lawsonia intracellularis** or similar or otherwise related microorganisms.

L3 ANSWER 6 OF 15 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:824297 HCAPLUS
DOCUMENT NUMBER: 134:1364
TITLE: Lawsonia-derived gene tlyA and related hemolysin polypeptides, peptides and proteins and their uses for diagnosis and treatment of avian and porcine infections
INVENTOR(S): Panaccio, Michael; Rosey, Everett Lee; Hasse, Detlef; Ankenbauer, Robert Gerard
PATENT ASSIGNEE(S): Pfizer Products Inc, USA; Agriculture Victoria Services Pty Ltd; Pig Research and Development Corporation
SOURCE: PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000069906	A1	20001123	WO 2000-AU439	20000511
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1177213	A1	20020206	EP 2000-924978	20000511
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: US 1999-134022P P 19990513
WO 2000-AU439 W 20000511

AB The present invention relates generally to therapeutic compns. for the treatment and/or prophylaxis of intestinal disease conditions in animals and birds caused or exacerbated by **Lawsonia**

intracellularis or similar or otherwise related microorganism. In particular, the present invention provides a novel gene derived from **Lawsonia intracellularis** which encodes an immunogenic TylA hemolysin peptide, polypeptide or protein that is particularly useful as an **antigen** in vaccine prepn. for conferring humoral immunity against **Lawsonia intracellularis** and related pathogens in animal hosts. The present invention is also directed to methods for the treatment and/or prophylaxis of such intestinal disease conditions and to diagnostic agents and procedures for detecting **Lawsonia intracellularis** or similar or otherwise related microorganisms.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:824296 HCAPLUS
DOCUMENT NUMBER: 134:14022
TITLE: Lawsonia-derived gene ompH and related **outer membrane protein** H polypeptides, peptides and proteins and their uses for diagnosis and treatment of avian and porcine infections
INVENTOR(S): Hasse, Detlef; Panaccio, Michael; Sinistaj, Meri
PATENT ASSIGNEE(S): Pig Research and Development Corporation, Australia; Agriculture Victoria Services Pty Ltd
SOURCE: PCT Int. Appl., 85 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000069905	A1	20001123	WO 2000-AU438	20000511
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1183268	A1	20020306	EP 2000-924977	20000511
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 2000011290	A	20020521	BR 2000-11290	20000511

PRIORITY APPLN. INFO.: US 1999-133986P P 19990513
WO 2000-AU438 W 20000511

AB The present invention relates generally to therapeutic compns. for the treatment and/or prophylaxis of intestinal disease conditions in animals and birds caused or exacerbated by **Lawsonia intracellularis** or similar or otherwise related microorganism. In particular, the present invention provides a novel gene derived from **Lawsonia intracellularis**

which encodes an immunogenic OmpH outer membrane peptide, polypeptide or protein that is particularly useful as an **antigen** in vaccine prepn. for conferring humoral immunity against **Lawsonia intracellularis** and related pathogens in animal hosts. The present invention is also directed to methods for the treatment and/or prophylaxis of such intestinal disease conditions and to diagnostic agents and procedures for detecting **Lawsonia intracellularis** or similar or otherwise related microorganisms.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 8 OF 15 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:824295 HCAPLUS
DOCUMENT NUMBER: 133:359825
TITLE: Lawsonia-derived gene flgE and related flagellar hook polypeptides, peptides and proteins and their uses for diagnosis and treatment of avian and porcine infections
INVENTOR(S): Panaccio, Michael; Rosey, Everett Lee; Sinistaj, Meri; Hasse, Detlef; Parsons, Jim; Ankenbauer, Robert Gerard
PATENT ASSIGNEE(S): Pfizer Products Inc., USA; Agriculture Victoria Services Pty Ltd; Pig Research and Development Corporation
SOURCE: PCT Int. Appl., 97 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000069904	A1	20001123	WO 2000-AU437	20000511
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
BR 2000011294	A	20020226	BR 2000-11294	20000511
EP 1181315	A1	20020227	EP 2000-924976	20000511
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: US 1999-133973P P 19990513
WO 2000-AU437 W 20000511

AB The present invention relates generally to therapeutic compns. for the treatment and/or prophylaxis of intestinal disease conditions in animals and birds caused or exacerbated by **Lawsonia intracellularis** or similar or otherwise related microorganism. In particular, the present invention provides a novel gene derived from **Lawsonia intracellularis** which encodes an immunogenic FlgE flagellar hook peptide,

polypeptide or protein that is particularly useful as an **antigen** in vaccine prepn. for conferring humoral immunity against **Lawsonia intracellularis** and related pathogens in animal hosts. The present invention is also directed to methods for the treatment and/or prophylaxis of such intestinal disease conditions and to diagnostic agents and procedures for detecting **Lawsonia intracellularis** or similar or otherwise related microorganisms.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:824294 HCAPLUS
DOCUMENT NUMBER: 133:359824
TITLE: Lawsonia-derived gene sodC and related superoxide dismutase polypeptides, peptides and proteins and their uses for diagnosis and treatment of avian and porcine infections
INVENTOR(S): Ankenbauer, Robert Gerard; Hasse, Detlef; Panaccio, Michael; Rosey, Everett Lee; Wright, Catherine
PATENT ASSIGNEE(S): Pfizer Products, Inc., USA; Pig Research and Development Corp.; Agriculture Victoria Services Pty., Ltd.
SOURCE: PCT Int. Appl., 85 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000069903	A1	20001123	WO 2000-AU436	20000511
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1177212	A1	20020206	EP 2000-924975	20000511
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 2000011292	A	20020226	BR 2000-11292	20000511
JP 2003501013	T2	20030114	JP 2000-618319	20000511

PRIORITY APPLN. INFO.: US 1999-133989P P 19990513
WO 2000-AU436 W 20000511

AB The present invention relates generally to therapeutic compns. for the treatment and/or prophylaxis of intestinal disease conditions in animals and birds caused or exacerbated by **Lawsonia intracellularis** or similar or otherwise related microorganism. In particular, the present invention provides a novel gene derived from **Lawsonia intracellularis** which encodes an immunogenic SodC superoxide dismutase peptide,

polypeptide or protein that is particularly useful as an **antigen** in vaccine prepn. for conferring humoral immunity against **Lawsonia intracellularis** and related pathogens in animal hosts. The present invention is also directed to methods for the treatment and/or prophylaxis of such intestinal disease conditions and to diagnostic agents and procedures for detecting **Lawsonia intracellularis** or similar or otherwise related microorganisms.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 10 OF 15 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:588529 HCAPLUS
DOCUMENT NUMBER: 134:290822
TITLE: Immunohistochemistry and polymerase chain reaction for the detection of **Lawsonia intracellularis** in porcine intestinal tissues with proliferative enteropathy
AUTHOR(S): Kim, Junghyun; Choi, Changsun; Cho, Wan-Seob; Chae, Chanhee
CORPORATE SOURCE: Department of Veterinary Pathology, College of Veterinary Medicine and School of Agricultural Biotechnology, Seoul National University, Suwon, 441-744, S. Korea
SOURCE: Journal of Veterinary Medical Science (2000), 62(7), 771-773
CODEN: JVMSEQ; ISSN: 0916-7250
PUBLISHER: Japanese Society of Veterinary Science
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Detection method of **Lawsonia intracellularis** was studied in formalin-fixed paraffin-embedded intestinal tissues from 5 naturally infected pigs by immunohistochem. with a monoclonal antibody against **outer membrane protein** of **L. intracellularis**. Warthin-Starry silver stain revealed clusters of argyrophilic, slightly curved rod-shaped organisms in the apical cytoplasm of enterocytes. Immunohistochem. staining with a **L. intracellularis**-specific monoclonal antibody confirmed the presence of the organism in the apical cytoplasm of hyperplastic enterocytes. The presence of **L. intracellularis** in the ileum of pig with proliferative enteropathy was confirmed by PCR further on the basis of amplification of 319-bp products specific for porcine **L. intracellularis** chromosomal DNA. Immunohistochem. and PCR may be a complementary method to confirm the diagnosis of **L. intracellularis** infection in pigs.

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 11 OF 15 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:494260 HCAPLUS
DOCUMENT NUMBER: 127:158904
TITLE: Comparison of the 16S ribosomal DNA sequences from the intracellular agents of proliferative enteritis in a hamster, deer, and ostrich with the sequence of a porcine isolate of

Lawsonia intracellularis

AUTHOR(S): Cooper, Dale M.; Swanson, Debra L.; Barns, Susan M.; Gebhart, Connie J.

CORPORATE SOURCE: Division of Comparative Medicine, Research Animal Resources, Medical School, University of Minnesota, Minneapolis, MN, 55455, USA

SOURCE: International Journal of Systematic Bacteriology (1997), 47(3), 635-639
CODEN: IJSBA8; ISSN: 0020-7713

PUBLISHER: American Society for Microbiology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Proliferative enteritis is an enteric disease that affects a variety of animals. The causative agent in swine has been detd. to be an obligate intracellular bacterium, **Lawsonia intracellularis**, related to the sulfate-reducing bacterium Desulfovibrio desulfuricans. The intracellular agents found in the lesions of different animal species are **antigenically** similar. In addn., strains from the pig, ferret, and hamster have been shown to be genetically similar. In this study we performed a partial 16S ribosomal DNA sequence anal. on the intracellular agent of proliferative enteritis from a hamster, a deer, and an ostrich and compared these sequences to that of the porcine **L. intracellularis** isolate. Results of this study indicate that the intracellular agents from these species with proliferative enteritis have high sequence similarity, indicating that they are all in the genus Lawsonia and that they may also be the same species, **L. intracellularis**.

L3 ANSWER 12 OF 15 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1997:459883 HCAPLUS

DOCUMENT NUMBER: 127:148036

TITLE: Lymphoglandular complexes process **antigen** in the distal colon in swine

AUTHOR(S): Mansfield, Linda S.; Hill, Doloros E.; Urban, Joseph F., Jr.

CORPORATE SOURCE: Department of Microbiology, College of Veterinary Medicine, Michigan State University, East Lansing, MI, 48824, USA

SOURCE: Cytokines, Cholera, and the Gut, [Papers from the Joint Meeting of the United States-Japan Cooperative Medical Sciences Program Panels on Malnutrition and Cholera], Kiawah Island, S. C., Nov. 30-Dec. 3, 1995 (1997), Meeting Date 1995, 185-195. Editor(s): Keusch, Gerald T.; Kawakami, Masanobu. IOS Press: Amsterdam, Neth.
CODEN: 64SIAE

DOCUMENT TYPE: Conference; General Review

LANGUAGE: English

AB A review with 15 refs. We have identified a new **antigen** processing structure in the colon of swine that functions by recognizing and reacting to enteric bacteria that invade the host via the colon (I). Lymphoglandular complexes serve as **antigen** sampling structures and induce an immune response in exptl. infections of swine with whipworm. These studies grew from a clin. observation that swine with naturally acquired infections of whipworm had circumscribed nodular secondary bacterial lesions in the distal colon, distant from the site of worm attachment in the

proximal colon. Subsequent exptl. infections of weaned pigs revealed that low nos. of swine whipworm created an environment in the colon where opportunistic bacteria could invade and overgrow. Whipworm infected pigs developed severe diarrhea and failed to grow normally. Because enteric bacteria are known to utilize immune inductive sites for host invasion (2), we examd. this possibility in whipworm infected pigs. We found that bacteria selectively invaded and multiplied in the LGCs in specialized cells with M cell characteristics leading to expansion of the lymphoid cells in the underlying follicle. Both the worm and bacteria were necessary for these events to occur, and initiation of lesions was whipworm dose dependent. Propria nodules varied from 0.25 to 0.63 cm in diam. depending on the dose of whipworm. We isolated several species of bacteria from the LGC follicle deep to the muscularis mucosae. These included Campylobacter jejuni, C. coli, C. lari, and Escherichia coli. **Lawsonia intracellularis** was demonstrated in LGCs.

L3 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:457165 HCAPLUS
DOCUMENT NUMBER: 127:94116
TITLE: **Lawsonia intracellularis** immunogenic components identification, DNA sequences, and uses for animal intestine infection vaccine or diagnosis
INVENTOR(S): Panaccio, Michael; Hasse, Detlef
PATENT ASSIGNEE(S): Daratech Pty. Ltd., Australia; Pig Research and Development Corporation; Panaccio, Michael; Hasse, Detlef
SOURCE: PCT Int. Appl., 94 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9720050	A1	19970605	WO 1996-AU767	19961129
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2236574	AA	19970605	CA 1996-2236574	19961129
AU 9676141	A1	19970619	AU 1996-76141	19961129
AU 718333	B2	20000413		
EP 871735	A1	19981021	EP 1996-938863	19961129
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
CN 1203630	A	19981230	CN 1996-198666	19961129
BR 9611623	A	19991228	BR 1996-11623	19961129
JP 2000502054	T2	20000222	JP 1997-520010	19961129
NZ 322398	A	20000228	NZ 1996-322398	19961129

PRIORITY APPLN. INFO.: AU 1995-6910 A 19951130

AU 1995-6911 A 19951130
WO 1996-AU767 W 19961129

AB The present invention relates generally to therapeutic compns. for the treatment and/or prophylaxis of intestinal disease conditions in animals and birds caused or exacerbated by **Lawsonia intracellularis** or similar or otherwise related microorganism. The present invention also contemplates methods for the treatment and/or prophylaxis of such intestinal disease conditions and to diagnostic agents and procedures for detecting **Lawsonia intracellularis** or similar or otherwise related microorganism. The **Lawsonia intracellularis** genomic library was screened with immunoscreened with anti-**L. intracellularis** sera. Clones found to be pos. according to immunoscreening were sequenced. GroEL and GroES proteins are two immunogenic components that were identified. Examples also included immunofluorescent detection of **L. intracellularis** bacteria in pig feces, formalin-killed vaccines, and putative vaccine candidate sequences.

L3 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:405975 HCAPLUS
DOCUMENT NUMBER: 122:181343
TITLE: Intracellular domain of desmoglein 3 (pemphigus vulgaris **antigen**) confers adhesive function on the extracellular domain of E-cadherin without binding catenins
AUTHOR(S): Roh, Joo-Young; Stanley, John R.
CORPORATE SOURCE: Natl. Cancer Inst., Natl. Inst. of Health, Bethesda, MD, 20892, USA
SOURCE: Journal of Cell Biology (1995), 128(5), 939-47
CODEN: JCLBA3; ISSN: 0021-9525
PUBLISHER: Rockefeller University Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB For the extracellular (EC) domain of E-cadherin to function in homophilic adhesion it is thought that its intracytoplasmic (IC) domain must bind .alpha.- and .beta.-catenins, which link it to the actin cytoskeleton. However, the IC domain of pemphigus vulgaris **antigen** (PVA or Dsg3), which is in the desmoglein subfamily of the cadherin gene superfamily, does not bind .alpha.- or .beta.-catenins. Because desmogleins have also been predicted to function in the cell adhesion of desmosomes, we speculated that the PVA IC domain might be able to act in a novel way in conferring adhesive function on the EC domain of cadherins. To test this hypothesis we studied aggregation of mouse fibroblast L cell clones that expressed chimeric cDNAs encoding the EC domain of E-cadherin with various IC domains. We show here that the full IC domain of PVA as well as an IC subdomain contg. only 40 amino acids of the PVA intracellular anchor (IA) region confer adhesive function on the E-cadherin EC domain without catenin-like assocns. with cytoplasmic mols. or fractionation with the cell cytoskeleton. This IA region subdomain is evolutionarily conserved in desmogleins, but not classical cadherins. These findings suggest an important cell biol. function for the IA region of desmogleins and demonstrate that strong cytoplasmic interactions are not absolutely necessarily for E-cadherin-mediated adhesion.

L3 ANSWER 15 OF 15 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1985:77080 HCAPLUS
DOCUMENT NUMBER: 102:77080
TITLE: Inherited deficiency of the Mac-1, LFA-1, p150,95 glycoprotein family and its molecular basis
AUTHOR(S): Springer, Timothy A.; Thompson, W. Scott; Miller, Linda J.; Schmalstieg, Frank C.; Anderson, Donald C.
CORPORATE SOURCE: Lab. Membrane Immunochem., Dana-Farber Cancer Inst., Boston, MA, 02115, USA
SOURCE: Journal of Experimental Medicine (1984), 160(6), 1901-18
CODEN: JEMEAV; ISSN: 0022-1007
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Leukocyte surface glycoproteins that share a common .beta. subunit have been found to be congenitally deficient in 3 unrelated patients with recurring bacterial infection. The glycoproteins, Mac-1, LFA-1, and p150,95 have the subunit compns. .alpha.M.beta., .alpha.L.beta., and .alpha.X.beta., resp. Using subunit-specific monoclonal antibodies, both the .alpha.M and .beta. subunits of Mac-1, the .alpha.L and .beta. subunits of LFA-1, and at the least the .beta. subunit of p150,95, were found to be deficient at the cell surface by the techniques of immunofluorescence flow cytometry, radioimmunoassay, and immunopptn. A latent pool of Mac-1 that can be expressed on granulocyte surfaces in response to secretory stimuli, such as formyl-Met-Leu-Phe, was also lacking in patients. Deficiency was found on all leukocytes tested, including granulocytes, monocytes, and T and B lymphocytes. Quantitation by immunofluorescence cytometry of subunits on granulocytes from parents of these patients and of a fourth deceased patient showed approx. half-normal surface expression, and, together with data on other siblings and a family with an affected father and children, demonstrate autosomal recessive inheritance. Deficiency appears to be quant. rather than qual., with 2 patients expressing .apprx.0.5% and 1 patient .apprx.5% of normal amts. The latter patient had .alpha..beta. complexes on the cell surface detectable by immunopptn. Biosynthesis expts. showed the presence of normal amts. of .alpha.'**L intracellular** precursor in lymphoid lines of all 3 patients. Together with surface deficiency of 3 mols. that share a common .beta. subunit but have differing .alpha. subnunits, this suggests the primary deficiencey is of the .beta. subunit. The lack of maturation of .alpha.'L to .alpha.L and the deficiency of the .alpha. subunits at the cell surface and in latent pools suggest that assocn. with the .beta. subunit is required for .alpha. subunit processing and transport to the cell surface or to latent pools. The mol. basis of this disease is discussed in light of adhesion-related functional abnormalities in patients' leukocytes and the blockade of similar functions in healthy cells by monoclonal antibodies.

(FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO, CABA, AGRICOLA, VETU, VETB' ENTERED AT 11:21:36 ON 10 APR 2003)

L4 9 S L1
L5 36 S L2
L6 44 S L4 OR L5

L7 21 DUP REM L6 (23 DUPLICATES REMOVED)

L7 ANSWER 1 OF 21 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-557448 [59] WPIDS
DOC. NO. NON-CPI: N2002-441304
DOC. NO. CPI: C2002-158153
TITLE: New immunogenic polypeptide comprising epitope of Lawsonia spp. polypeptide such as fihB, fliR, ntrC, glnH, motA, polypeptides, useful in vaccines for treatment of porcine proliferative enteropathy in pigs and birds.
DERWENT CLASS: B04 C06 D16 S03
INVENTOR(S): GOOD, R T; KING, K W; ROSEY, E L; STRUGNELL, R A
PATENT ASSIGNEE(S): (AGRI-N) AGRIC VICTORIA SERVICES PTY LTD; (AUPO-N) AUSTRALIAN PORK LTD; (PFIZ) PFIZER PROD INC
COUNTRY COUNT: 98
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002038594	A1	20020516	(200259)*	EN	155
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2002014810	A	20020521	(200260)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002038594	A1	WO 2001-AU1462	20011109
AU 2002014810	A	AU 2002-14810	20011109

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2002014810	A Based on	WO 200238594

PRIORITY APPLN. INFO: US 2000-249596P 20001117; AU 2000-1381 20001110
AN 2002-557448 [59] WPIDS
AB WO 200238594 A UPAB: 20020916
NOVELTY - An isolated or recombinant immunogenic polypeptide (I) which comprises, mimics or cross-reacts with a B-cell or T-cell epitope of a Lawsonia spp. polypeptide such as fihB, fliR, ntrC, glnH, motA, motB, tlyC, ytfM or ytfN polypeptides, is new.

DETAILED DESCRIPTION - An isolated or recombinant immunogenic polypeptide (I) which comprises, mimics or cross-reacts with a B-cell or T-cell epitope of a Lawsonia spp. polypeptide such as fihB, fliR, ntrC, glnH, motA, motB, tlyC, ytfM or ytfN polypeptides, is:

(i) a polypeptide of Lawsonia spp. which comprises an amino acid sequence that has at least about 60% sequence identity overall

to a fully defined amino acid (PS) sequence of 207 (S2), 262 (S4), 456 (S6), 137 (S8), 282 (S10), 237 (S12), 348 (S14), 602 (S16), or 1382 (S18) amino acids as given in specification;

(ii) a polypeptide of Lawsonia spp. which comprises an amino acid sequence which has at least 60% sequence identity overall to an amino acid sequence encoded by **L. intracellularis**
(Li) DNA contained within a plasmid (P) having AGAL Accession Nos: NM00/16476 (plasmid pGTE1 glnH); NM00/16477 (plasmid pGTE2 flhB); NM00/16478 (plasmid pGTE3 fliR); NM00/16479 (plasmid pGTE4 motA/B); NM00/16480 (plasmid pGTE5 tlyC); NM00/16481 (plasmid pGTE6 ntrC); NM00/16482 (plasmid pGTE7 ytfM); or NM01/23286 (plasmid pGTE8 ytfN);

(iii) a polypeptide which comprises at least about 5 contiguous amino acids of PS;

(iv) a polypeptide which comprises at least about 5 contiguous amino acids of amino acid sequence of Li DNA contained within (P);

(v) a polypeptide which comprises an amino acid sequence encoded by nucleotide sequence of Lawsonia spp. having at least 60% identity overall to a fully defined nucleotide sequence (NS) of 622 (S1), 789 (S3), 1371 (S5), 412 (S7), 849 (S9), 717 (S11), 1047 (S13), 1812 (S15), or 4149 (S17) nucleotides as given in specification;

(vi) a polypeptide which comprises an amino acid sequence encoded by a nucleotide sequence of Lawsonia spp. having at least 60% sequence identity overall to nucleotide sequence of Li DNA contained with an (P);

(vii) a polypeptide encoded by at least 15 contiguous nucleotides of NS;

(viii) a polypeptide encoded by at least 15 contiguous nucleotides of nucleotide sequence of Li DNA contained within (P); or

(ix) a homolog, analog or derivative of above mentioned polypeptides which mimic a B-cell or T-cell epitope of Lawsonia spp.

INDEPENDENT CLAIMS are also included for the following:

(1) a vaccine composition (II) for the prophylaxis or treatment of infection of an animal by Lawsonia spp. which comprises an immunogenic component that comprises (I) and one or more carriers, diluents or adjuvants suitable for veterinary or pharmaceutical use;

(2) a combination vaccine composition (III) for the prophylaxis or treatment of infection of an animal by Lawsonia spp., comprising:

(i) a first immunogenic component which comprises (I); and

(ii) a second immunogenic component different from first immunogenic component and comprising a Li polypeptide such as FlgE, hemolysin, OmpH, SodC, flhB, fliR, ntrC, glnH, motA, motB, tlyC, ytfM, or ytfN polypeptides and one or more carriers, diluents or adjuvants suitable for veterinary or pharmaceutical use;

(3) a vaccine vector (IV) that comprises, in an expressible form, an isolated nucleic acid molecule (V) comprising a nucleotide sequence such as:

(i) a protein-encoding nucleotide sequence having at least 60% sequence identity overall to a sequence of NS;

(ii) a protein-encoding nucleotide sequence having at least 60% identity overall to the protein-encoding sequence of Li DNA contained within (P);

(iii) a protein-encoding nucleotide sequence which comprises at least about 15 contiguous nucleotides of NS;

(iv) a protein-encoding nucleotide sequence which comprises at least 15 contiguous nucleotides of Li DNA contained within (P);

(v) a protein-encoding nucleotide sequence which hybridizes

under low stringency condition to the complement of NS;

(vi) a protein-encoding nucleotide sequence which hybridizes under low stringency conditions to non-coding strand of Li DNA contained within (P); and

(vii) a homolog, analog or derivative of above mentioned nucleotide sequences which encodes the polypeptide that mimics a B-cell or T-cell epitope of Lawsonia spp.;

(4) an isolated polyclonal or monoclonal antibody molecule (VI) that binds specifically to Lawsonia spp. polypeptide of flhB, fliR, ntrC, glnH, motA, motB, tlyC, ytfM, or ytfN polypeptide, or homolog, analog or derivative of the above mentioned polypeptide;

(5) an isolated nucleic acid molecule (N) which consists of a nucleotide sequence encoding Lawsonia spp. such as flhB, fliR, ntrC, glnH, motA, motB, tlyC, ytfM, or ytfN;

(6) a probe or primer comprising any one of fully defined 50 oligonucleotide sequences as given in specification such as catattcaaggtacagcatctgatgg, ctcctttacaaaccttgctcc, gctcatctaaagaacactttcc, caaggtagtatacaacttattgg, etc., or complementary nucleotide sequence to the oligonucleotide sequence;

(7) a plasmid having AGAL Accession Nos: NM00/16476 (plasmid pGTE1 glnH); NM00/16477 (plasmid pGTE2 flhB); NM00/16478 (plasmid pGTE3 fliR); NM00/16479 (plasmid pGTE4 motA/B); NM00/16480 (plasmid pGTE5 tlyC); NM00/16481 (plasmid pGTE6 ntrC); NM00/16482 (plasmid pGTE7 ytfM); or NM01/23286 (plasmid pGTE8 ytfN);

(8) a recombinant vector (VII) capable of replication in a host cell, where the vector comprises (N);

(9) a host cell (VIII) comprising (VII);

(10) identifying (M1) whether or not a porcine or avian animal has suffered from a past infection, or is currently infected, with Li or a microorganism that is immunologically cross-reactive with Li;

(11) diagnosing (M2) infection of a porcine or avian animal by Li or a microorganism that is immunologically cross-reactive with Li; and

(12) detecting (M3) Li or related microorganism in a biological sample derived from a porcine or avian animal subject.

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Vaccine. No supporting data is given.

USE - (I) is useful for identifying whether or not a porcine or avian animal has suffered from a past infection, or is currently infected, with Li or a microorganism that is immunologically cross-reactive with Li. (VI) is useful for diagnosing infection of a porcine or avian animal by Li or a microorganism that is immunologically cross-reactive with Li. (N) is useful as probes or primers for detecting Li or related microorganism in a biological sample derived from a porcine or avian animal subject (all claimed). (I) is preferably useful for vaccinating porcine animals against porcine proliferative enteropathy (PPE). (I) is also useful in vaccines for the prophylaxis and treatment of PPE in birds. (II) is useful for conferring protection against infection by other species of the genus Lawsonia or other microorganisms related to Li.

Dwg.0/1

L7 ANSWER 2 OF 21 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-519087 [55] WPIDS
DOC. NO. CPI: C2002-146759
TITLE: A proliferative ileitis vaccine useful for protecting mammals from disease caused by

Lawsonia intracellularis,
comprises tissue culture grown **Lawsonia intracellularis.**

DERWENT CLASS: A96 B04 C06 D16
PATENT ASSIGNEE(S): (ARIZ-N) ARIZONA BOARD OF REGENTS
COUNTRY COUNT: 92
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002026250	A2	20020404	(200255)*	EN	43
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW					
AU 2001093151	A	20020408	(200255)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002026250	A2	WO 2001-US30284	20010927
AU 2001093151	A	AU 2001-93151	20010927

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001093151	A Based on	WO 200226250

PRIORITY APPLN. INFO: US 2000-677108 20000929
AN 2002-519087 [55] WPIDS
AB WO 200226250 A UPAB: 20020829

NOVELTY - A proliferative ileitis vaccine (I), comprising tissue culture grown **Lawsonia intracellularis** (II), which produces antibodies in pigs reacting with at least one of the **antigens** (A) selected from 21 kDa, 31 kDa, 41 kDa, 44 kDa, 60 kDa, 71 kDa, 115 kDa and greater than 115 kDa, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a monoclonal antibody recognizing (II) **antigen** with a molecular weight of (A);

(2) growing (II) in a susceptible tissue culture to protect a mammal against proliferative ileitis caused by (II);

(3) producing a proliferative ileitis vaccine, by:

(a) growing (II) in a susceptible tissue culture, harvesting the tissue culture grown (II), inactivating or stabilizing the harvest and adjuvanting the inactivated harvest into a vaccine or formulating the stabilized harvest to produce a vaccine;

(b) growing and harvesting (II) as above, inactivating the harvest, extracting a protective **antigen** from the harvested inactivated tissue culture grown to produce a subunit and adjuvanting the subunit to produce a vaccine;

(c) identifying a target immunogen of (II), constructing and screening (II) genomic library, identifying the recombinant clone, producing the target immunogen of (II), identifying a gene encoding

an immunoreactive group using the production vector and formulating the immunoreactive group into a vaccine;

(d) identifying a gene encoding an immunoreactive group of a target immunogen of (II) as above, expressing the immunoreactive group using a live production vector and formulating the vector into a vaccine;

(e) identifying a target immunogen of (II), sequencing the target immunogen of (II), inserting the sequence of the target immunogen into a production vector, expressing the target immunogen by the production vector, growing the production vector expressing the target immunogen and formulating the target immunogen into a vaccine; or

(f) preparing a monoclonal antibody to a functional immunogen of (II), identifying a functional immunogen detected by the monoclonal antibody as a target immunogen, sequencing the immunogen, expressing the target immunogen in a production vector, growing the production vector to express a target immunogen, and formulating the target immunogen into a vaccine;

(4) producing a proliferative ileitis subunit vaccine;

(5) diagnosing proliferative ileitis, by detecting a target immunogen of (II) by an assay such as a fluorescence assay (FA), immunofluorescence assay (IFA), polymerase chain reaction (PCR) and enzyme linked immunosorbent assay (ELISA); and

(6) quantitating **antigenic** mass during **antigen** production, by detecting an **antigen** the molecular weight of (A).

ACTIVITY - Antibacterial; Antiinflammatory.

MECHANISM OF ACTION - Vaccine (claimed).

To determine whether (I) could protect pigs from a homologous challenge or from exposure to heterologous isolates or strains, ten 4-week-old pigs were vaccinated and later challenged. Ten control pigs received equal doses of a mock vaccine which contained only the tissue culture, medium Minimal Essential Medium (MEM) and adjuvant (without **antigen**). The pigs were numbered and then placed into two different treatment groups to provide two different repetitions of each treatment. The pigs were challenged to (II) through incubation with 75ml of viable (II)-infected cells per pig (5 days post cell-culture infection) 21 days after the booster vaccination. Pigs were observed for clinical signs of disease for 24 days and then necropsied and examined for lesions of ileitis (gross lesions and hyperplasia). Rectal swabs were cultured for S.hyodysenteriae and Salmonella spp. prior to challenge and at necropsy. None of these swabs were positive indicating that pigs were not infected with S.hyodysenteriae or Salmonella spp.. Two pigs (one vaccinated and one control) died of respiratory lesions prior to challenge. The remaining control pigs showed sporadic diarrhea. None of the vaccinated pigs exhibited any grossly observable pathology. Upon necropsy at 24 days following challenge, seven of eight vaccinated pigs were normal, whereas, five of nine control pigs had gut lesions typical of (II). One vaccinate had both gross lesions and hyperplasia, whereas, five control pigs showed both gross lesions and hyperplasia. One control had hyperplasia but showed no gross lesions.

USE - (I) is useful for protecting a mammal through vaccination, from a disease caused by (II), especially proliferative ileitis (claimed).

Dwg.0/6

L7 ANSWER 3 OF 21 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-521947 [56] WPIDS
DOC. NO. NON-CPI: N2002-413067
DOC. NO. CPI: C2002-147814
TITLE: New **Lawsonia intracellularis** proteins, useful as a vaccine or for manufacturing a vaccine for combating **L. intracellularis** infections, e.g. porcine proliferative enteropathy, which is an important disease in the pig industry.
DERWENT CLASS: B04 C04 D16 S03
INVENTOR(S): JACOBS, A A C; VERMEIJ, P
PATENT ASSIGNEE(S): (ALKU) AKZO NOBEL NV
COUNTRY COUNT: 30
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 1219711	A2	20020703	(200256)*	EN	26
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					
AU 2001097371	A	20020627	(200256)		
CA 2365494	A1	20020620	(200256)	EN	
JP 2003000276	A	20030107	(200314)		71
HU 2001005379	A2	20030128	(200323)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 1219711	A2	EP 2001-204919	20011214
AU 2001097371	A	AU 2001-97371	20011220
CA 2365494	A1	CA 2001-2365494	20011218
JP 2003000276	A	JP 2001-385373	20011219
HU 2001005379	A2	HU 2001-5379	20011219

PRIORITY APPLN. INFO: EP 2000-204660 20001220
AN 2002-521947 [56] WPIDS
AB EP 1219711 A UPAB: 20020903
NOVELTY - **Lawsonia intracellularis** proteins (I) comprising a fully defined sequence at least 70% homologous to the sequence comprising 218 amino acids (P1) or 475 amino acids (P2) given in the specification, or their immunogenic fragments, are new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) nucleic acid sequences encoding the **L. intracellularis** proteins (or a part of the nucleic acid sequence that encodes an immunogenic fragment of the proteins) comprising a sequence with at least 70% homology with the nucleic acid sequence having 656 bp (NA1) or 1428 bp (NA2) fully defined in the specification;

(2) deoxyribonucleic acid (DNA) fragment comprising the nucleic acid;

(3) a recombinant DNA molecule comprising the nucleic acid sequences above, or the DNA fragment, under the control of a functionally linked promoter;

(4) a live recombinant carrier comprising the DNA fragment or

the recombinant DNA molecule;

(5) a host cell comprising the NA1 or NA2 nucleic acid sequences, the DNA fragment, the recombinant DNA molecule or the live recombinant carrier;

L. intracellularis Outer Membrane Protein, which has a molecular weight of 19.21 kD, or its immunogenic fragment, obtainable by a process comprising:

(a) subjecting an outer membrane preparation to sodium dodecyl sulfate polyacrylamide gel electrophoresis (SDS-PAGE); and

(b) excision of the 19 or 21 kD band from the gel;

(6) a vaccine for combating **L. intracellularis** infections comprising the NA1 or NA2 nucleic acid sequences, the DNA fragment, the recombinant DNA molecule, the live recombinant carrier, the host cell, or the P1 or P2 **L. intracellularis** proteins; and a pharmaceutical carrier;

(7) preparing the vaccine by admixing the NA1 or NA2 nucleic acid sequences, the DNA fragment, the recombinant DNA molecule, the live recombinant carrier, the host cell, or the P1 or P2 **L. intracellularis** proteins; and a pharmaceutical carrier; and

(8) a diagnostic test for detecting a **L. intracellularis** DNA comprising the NA1 or NA2 nucleic acid sequences, or a fragment of these sequences with a length of at least 12, preferably 18, nucleotides.

ACTIVITY - Antibiotic.

No suitable data given.

MECHANISM OF ACTION - Vaccine.

USE - (I) are useful as a vaccine or for manufacturing a vaccine for combating **L. intracellularis** infections (claimed), e.g. porcine proliferative enteropathy, which an important disease in the pig industry. (I) is also useful for diagnosing **L. intracellularis** infection and for detecting **L. intracellularis** DNA, **L. intracellularis antigens** or antibodies against **L. intracellularis**.

Dwg.0/2

L7 ANSWER 4 OF 21 MEDLINE DUPLICATE 1

ACCESSION NUMBER: 2002284767 MEDLINE
DOCUMENT NUMBER: 22006891 PubMed ID: 12010978
TITLE: LsaA, an **antigen** involved in cell attachment and invasion, is expressed by **Lawsonia intracellularis** during infection in vitro and in vivo.
AUTHOR: McCluskey Jackie; Hannigan Joanne; Harris Jennifer D; Wren Brendan; Smith David G E
CORPORATE SOURCE: Zoonotic & Animal Pathogens Research Laboratory, Department of Medical Microbiology, Easter Bush Veterinary Centre, University of Edinburgh, Edinburgh, United Kingdom.
SOURCE: INFECTION AND IMMUNITY, (2002 Jun) 70 (6) 2899-907. Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF498259

ENTRY MONTH: 200206
ENTRY DATE: Entered STN: 20020528
Last Updated on STN: 20020627
Entered Medline: 20020626

AB **Lawsonia intracellularis** has been identified recently as the etiological agent of proliferative enteropathies, which are characterized by intestinal epithelial hyperplasia and associated moderate immune responses. This disease complex has been reported in a broad range of animals, prevalently in pigs, and **L. intracellularis** has been linked with ulcerative colitis in humans. **L. intracellularis** is an obligate intracellular bacterium, and the pathogenic mechanisms used to cause disease are unknown. Using in vitro-grown organisms as a source of genomic DNA, we identified a Lawsonia gene which encodes a surface **antigen**, LsaA (for Lawsonia surface **antigen**), associated with attachment to and entry into cells. The deduced amino acid sequence of this protein showed some similarity to members of a novel protein family identified in a number of other bacterial pathogens but for which roles are not fully defined. Transcription of this gene was detected by reverse transcription-PCR in **L. intracellularis** grown in vitro in IEC18 cells and in bacteria present in ileal tissue from infected animals. Immunohistochemistry with specific monoclonal antibody and immunoblotting with sera from infected animals demonstrated that LsaA protein is synthesized by **L. intracellularis** during infection. Expression of this gene during infection in vitro and in vivo suggests that this surface **antigen** is involved during infection, and phenotypic analysis indicated a role during **L. intracellularis** attachment to and entry into intestinal epithelial cells

L7 ANSWER 5 OF 21 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 2002486170 IN-PROCESS
DOCUMENT NUMBER: 22232420 PubMed ID: 12296397
TITLE: A comparative study of an indirect fluorescent antibody test and an immunoperoxidase monolayer assay for the diagnosis of porcine proliferative enteropathy.
AUTHOR: Guedes Roberto M C; Gebhart Connie J; Winkelman Nathan L; Mackie-Nuss Rebecca A
CORPORATE SOURCE: Department of Veterinary PathoBiology, College of Veterinary Medicine, University of Minnesota, Saint Paul 55108, USA.
SOURCE: JOURNAL OF VETERINARY DIAGNOSTIC INVESTIGATION, (2002 Sep) 14 (5) 420-3.
Journal code: 9011490. ISSN: 1040-6387.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 20020926
Last Updated on STN: 20021213

AB The currently used indirect fluorescent antibody test (IFAT) for the detection of antibodies against porcine proliferative enteropathy (PPE) was compared to an immunoperoxidase monolayer assay (IPMA). Serum samples used in this comparison were collected from 5-week-old pigs on day 0 (pre-experimental challenge) and on days 7, 14, 21,

and 28 after oral inoculation with intestinal homogenate from pigs affected by PPE (28 challenged pigs) and sucrose phosphate glutamate solution (2 control pigs). All animals were euthanized 4 weeks after inoculation. Immunohistochemistry staining was applied to formalin-fixed, paraffin-embedded sections of ileum for the detection of **Lawsonia intracellularis antigen**. The serology results with each method agreed in all samples, except on days 0 and 7 in 1 control animal, which was positive by IPMA, but negative by IFAT. The percentage of agreement between IFAT and IPMA was 98.6%.

L7 ANSWER 6 OF 21 MEDLINE DUPLICATE 3
ACCESSION NUMBER: 2001263511 MEDLINE
DOCUMENT NUMBER: 21254310 PubMed ID: 11355669
TITLE: Granulomatous enteritis and lymphadenitis in Iberian pigs naturally infected with **Lawsonia intracellularis**.
AUTHOR: Segales J; Fernandez-Salguero J M; Fructuoso G; Quintana J; Rosell C; Pozo J; De Arriba M L; Rubio P; Domingo M
CORPORATE SOURCE: Department de Sanitat i Anatomia Animals, Facultat de Veterinaria, Universitat Autonoma de Barcelona, Spain.. Joaquim.Segales@uab.es
SOURCE: VETERINARY PATHOLOGY, (2001 May) 38 (3) 343-6. Journal code: 0312020. ISSN: 0300-9858.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200110
ENTRY DATE: Entered STN: 20011015
Last Updated on STN: 20011015
Entered Medline: 20011011

AB Intestinal samples and/or lymph nodes of two Iberian pigs from two different farms were submitted for histopathologic examination. Both pigs had proliferation of ileal and/or cecal crypts with almost complete absence of goblet cells. Infection by **Lawsonia intracellularis** was demonstrated by immunohistochemistry and polymerase chain reaction assay. The mesenteric lymph node of one pig had moderate lymphocyte depletion with granulomatous inflammation of the lymph node parenchyma. Histiocytes and multinucleated giant cells from the lymph node of one pig contained **L. intracellularis antigen** within the cytoplasm. This pig had also porcine circovirus type 2 (PCV-2) infection, but nucleic acid and **antigen** of this virus were not demonstrated in the lymph node. The second pig had lymphocyte depletion and marked granulomatous inflammation in Peyer's patches. Histiocytes and multinucleated giant cells in areas of granulomatous inflammation contained **L. intracellularis antigen**; no PCV-2 nucleic acid or **antigen** was detected in the tissues of this pig. This is the first description of granulomatous ileitis and lymphadenitis associated with **L. intracellularis** infection.

L7 ANSWER 7 OF 21 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-016212 [02] WPIDS
DOC. NO. CPI: C2001-004517
TITLE: New immunogenic Lawsonia hemolysin peptide, nucleic

acid and antibody, useful in vaccines and for the diagnosis of Lawsonia infections, especially in swine.

DERWENT CLASS: B04 D16
INVENTOR(S): ANKENBAUER, R G; HASSE, D; PANACCIO, M; ROSEY, E L
PATENT ASSIGNEE(S): (AGRI-N) AGRIC VICTORIA SERVICES PTY LTD; (PFIZ) PFIZER PROD INC; (PIGR-N) PIG RES & DEV CORP; (AUPO-N) AUSTRALIAN PORK LTD
COUNTRY COUNT: 93
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000069906	A1	20001123	(200102)*	EN	95
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000043861	A	20001205	(200113)		
EP 1177213	A1	20020206	(200218)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000069906	A1	WO 2000-AU439	20000511
AU 2000043861	A	AU 2000-43861	20000511
EP 1177213	A1	EP 2000-924978	20000511
		WO 2000-AU439	20000511

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000043861	A	Based on	WO 200069906
EP 1177213	A1	Based on	WO 200069906

PRIORITY APPLN. INFO: US 1999-134022P 19990513
AN 2001-016212 [02] WPIDS
AB WO 200069906 A UPAB: 20010110
NOVELTY - Isolated or recombinant polypeptide (I) that comprises, mimics or cross-reacts with a B- or T-cell epitope of a hemolysin polypeptide from a Lawsonia spp.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a vaccine comprising, at least one carrier, diluent or adjuvant and a (I) having at least 70% sequence identity with a fully defined 251 aa sequence (1), (given in the specification), or at least 50% identity overall with aa 1-50 of (1), or their immunogenic homolog, analog or derivative that is immunologically cross-reactive with **L. intracellularis**;

(2) vaccine vector comprising a nucleic acid sequence (II) that encodes (1);

(3) poly- or monoclonal antibody (Ab) that binds to Lawsonia hemolysin polypeptide, or its derivatives, that have at least 70% sequence identity with (1);

(4) an isolated nucleic acid (III) that encodes a peptide, oligopeptide or polypeptide having at least 70% sequence identity with (1), at least 50% identity overall with aa 1-50 of (1), or its homolog, analog or derivative that mimics a B- or T-cell epitope, also complements of (III);

(5) a probe or primer containing at least 15 contiguous nucleotides from a 756 bp sequence (2), reproduced, or its complement; and

(6) the plasmid pALK12 (ATCC 207195).

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Induction of a specific humoral immune response.

USE - (I) are used (i) as **antigens** in vaccines to prevent or treat infection by Lawsonia, in birds and animals, especially pigs, to raise specific antibodies (Ab) and to detect past or present infection. Ab are also useful in diagnosis, to detect **L. intracellularis** or immunologically cross-reactive species, also for identification of epitopes in hemolysin. Vectors that contain nucleic acid (II) that encodes (I) are also useful in genetic vaccines, and fragments of (II) are useful as primers or probes for detecting **L. intracellularis** or related microorganisms, in hybridization or amplification assays.

Dwg.0/1

L7 ANSWER 8 OF 21 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2001-016211 [02] WPIDS

DOC. NO. CPI: C2001-004516

TITLE: New isolated Lawsonia spp. OmpH polypeptides and nucleic acids, useful for the prophylaxis, treatment and detection of Lawsonia infections.

DERWENT CLASS: B04 D16

INVENTOR(S): HASSE, D; PANACCIO, M; SINISTAJ, M

PATENT ASSIGNEE(S): (AGRI-N) AGRIC VICTORIA SERVICES PTY LTD; (PIGR-N) PIG RES & DEV CORP; (AUPO-N) AUSTRALIAN PORK LTD

COUNTRY COUNT: 93

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000069905	A1	20001123	(200102)*	EN	84
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000043860	A	20001205	(200113)		
EP 1183268	A1	20020306	(200224)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
BR 2000011290	A	20020521	(200238)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000069905	A1	WO 2000-AU438	20000511
AU 2000043860	A	AU 2000-43860	20000511
EP 1183268	A1	EP 2000-924977	20000511
		WO 2000-AU438	20000511
BR 2000011290	A	BR 2000-11290	20000511
		WO 2000-AU438	20000511

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000043860	A	Based on	WO 200069905
EP 1183268	A1	Based on	WO 200069905
BR 2000011290	A	Based on	WO 200069905

PRIORITY APPLN. INFO: US 1999-133986P 19990513
AN 2001-016211 [02] WPIDS
AB WO 200069905 A UPAB: 20010110
NOVELTY - A novel isolated or recombinant immunogenic polypeptide mimics or cross-reacts with a B-cell or T-cell epitope of a Lawsonia spp. OmpH polypeptide.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated or recombinant immunogenic polypeptide comprising:

(i) a peptide, oligopeptide or polypeptide which comprises an amino acid sequence having at least about 70% sequence identity overall to a fully defined 186 aa sequence (I) (given in the specification); or

(ii) a homolog, analog or derivative of (i) which mimics a B-cell or T-cell epitope of a Lawsonia spp. OmpH polypeptide;

(2) a vaccine composition for the prophylaxis or treatment of infection of an animal by Lawsonia spp., comprising an immunogenic component derived from an isolated or recombinant polypeptide having at least about 70% sequence identity overall to (I) or an immunogenic homolog, analog or derivative which is immunologically cross-reactive with **L. intracellularis**, and one or more carriers, diluents or adjuvants;

(3) a combination vaccine composition for the prophylaxis or treatment of infection of an animal by Lawsonia spp .comprising:

(i) a first immunogenic component comprising an isolated or recombinant polypeptide having at least about 70% sequence identity to (I) or an immunogenic homolog, analog, or derivative which is immunologically cross-reactive with **L. intracellularis**;

(ii) a second immunogenic component comprising an **antigenic L. intracellularis** peptide, polypeptide or protein; and

(iii) one or more carriers, diluents or adjuvants suitable for veterinary or pharmaceutical use;

(4) a vaccine vector that comprises, in an expressible form, an isolated nucleic acid molecule having a nucleotide sequence that encodes (I), such that the immunogenic polypeptide is expressible at a level to confer immunity against Lawsonia spp., when administered to a porcine or avian animal;

(5) a poly- or monoclonal antibody molecule capable of binding specifically to a OmpH polypeptide or a derivative of a OmpH polypeptide that is derived from Lawsonia spp. having at least about 70% sequence identity to (I);

(6) an isolated nucleic acid molecule (NAM) comprising a sequence of nucleotides, or their complements which encode, a peptide, oligopeptide or polypeptide selected from:

(i) a peptide, oligopeptide or polypeptide which comprises an amino acid sequence which has at least about 70% sequence identity overall to an amino acid sequence (I); and

(ii) a homolog, analog or derivative of (i) which mimics a B-cell or T-cell epitope of Lawsonia spp.;

(7) a method of detecting **L. intracellularis** or related microorganism in a biological sample derived from a porcine or avian animal subject comprising hybridizing one or more probes or primers derived from a fully defined 561 bp nucleotide sequence (NS) (II), or its complements to the sample and then detecting the hybridization using a detection device;

(8) a probe or primer having at least about 15 contiguous nucleotides in length derived from (II) or its complements;

(9) a plasmid designated pALK13 (ATCC No: 207196).

USE - The polypeptides are capable of eliciting the production of antibodies against Lawsonia spp. when administered to an avian or porcine animal (claimed). They can be used for conferring a protective immune response against Lawsonia spp. when administered to an avian or porcine animal (claimed). They can be used for the prophylaxis or treatment of an infection of an animal by Lawsonia spp. (claimed). The nucleic acids can also be used for prophylaxis or treatment of infections. The products can also be used for detection, e.g. for detecting whether or not a porcine or avian animal has suffered from a past infection or is currently infected with **L. intracellularis**. They are used particularly for porcine proliferative enteropathy (PPE) infections.

Dwg.0/3

L7 ANSWER 9 OF 21 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2001-016210 [02] WPIDS

DOC. NO. CPI: C2001-004515

TITLE: New immunogenic Lawsonia FlgE peptide, its nucleic acid and antibody, useful in vaccines and diagnosis of Lawsonia infections, particularly in swine.

DERWENT CLASS: B04 D16

INVENTOR(S): ANKENBAUER, R G; HASSE, D; PANACCIO, M; PARSONS, J; ROZEY, E L; SINISTAJ, M; ROSEY, E L

PATENT ASSIGNEE(S): (AGRI-N) AGRIC VICTORIA SERVICES PTY LTD; (PFIZ) PFIZER PROD INC; (PIGR-N) PIG RES & DEV CORP; (AUPO-N) AUSTRALIAN PORK LTD

COUNTRY COUNT: 93

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000069904	A1	20001123	(200102)*	EN	95

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT

RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2000043859 A 20001205 (200113)
EP 1181315 A1 20020227 (200222) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
BR 2000011294 A 20020226 (200223)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000069904	A1	WO 2000-AU437	20000511
AU 2000043859	A	AU 2000-43859	20000511
EP 1181315	A1	EP 2000-924976	20000511
		WO 2000-AU437	20000511
BR 2000011294	A	BR 2000-11294	20000511
		WO 2000-AU437	20000511

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000043859	A	Based on	WO 200069904
EP 1181315	A1	Based on	WO 200069904
BR 2000011294	A	Based on	WO 200069904

PRIORITY APPLN. INFO: US 1999-133973P 19990513
AN 2001-016210 [02] WPIDS
AB WO 200069904 A UPAB: 20010110
NOVELTY - Isolated or recombinant polypeptide (I) that comprises, mimics or cross-reacts with a B- or T-cell epitope of a FlgE (flagellar hook) polypeptide from a Lawsonia spp.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a vaccine comprising,at least one carrier, diluent or adjuvant and a (I) that has at least 60% sequence identity overall with a fully defined 502 aa sequence (1), (given in the specification) or its immunogenic homolog, analog or derivative that is immunologically cross-reactive with **L. intracellularis**;

(2) a vaccine vector comprising, in expressible form, a nucleic acid sequence (II) that encodes (1);

(3) a poly- or mono-clonal antibody (Ab) that binds to Lawsonia FlgE polypeptide, or its derivatives, that have at least 60% sequence identity with (1);

(4) an isolated nucleic acid (III) that encodes a peptide, oligopeptide or polypeptide having at least 60% sequence identity with (1) or its homolog, analog or derivative that mimics a B- or T-cell epitope, also complements of (III);

(5) a probe or primer containing at least 15 contiguous nucleotides from a fully defined 1509 bp sequence (2), (given in the specification) or its complement; and

(6) a plasmid pALK11 (ATCC 207156).

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Induction of a specific humoral immune response. No data given.

USE - (I) are used as **antigens** in vaccines to prevent

or treat infection by Lawsonia, in birds and animals, especially pigs, to raise specific antibodies (Ab) and to detect past or present infection. Ab are also useful in diagnosis, to detect **L. intracellularis** or immunologically cross-reactive species (claimed), also for identification of epitopes in FlgE. Vectors that contain nucleic acid (II) that encodes (I) are also useful in genetic vaccines, and fragments of (II) are useful as primers or probes for detecting **L. intracellularis** or related microorganisms, in hybridization or amplification assays.
Dwg.0/1

L7 ANSWER 10 OF 21 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-031924 [04] WPIDS
DOC. NO. CPI: C2001-009790
TITLE: Isolated or recombinant polypeptide for treating porcine and avian species against **Lawsonia intracellularis** infection, comprises, mimics or cross-reacts with the B or T cell epitope of Lawsonia SodC polypeptide.
DERWENT CLASS: B04 D16
INVENTOR(S): ANKENBAUER, R G; HASSE, D; PANACCIO, M; ROSEY, E L; WRIGHT, C
PATENT ASSIGNEE(S): (AGRI-N) AGRIC VICTORIA SERVICES PTY LTD; (PFIZ) PFIZER PROD INC; (PIGR-N) PIG RES & DEV CORP; (AUPO-N) AUSTRALIAN PORK LTD
COUNTRY COUNT: 93
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000069903	A1	20001123	(200104)*	EN	85
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000043858	A	20001205	(200113)		
EP 1177212	A1	20020206	(200218)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
BR 2000011292	A	20020226	(200223)		
JP 2003501013	W	20030114	(200306)		89

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000069903	A1	WO 2000-AU436	20000511
AU 2000043858	A	AU 2000-43858	20000511
EP 1177212	A1	EP 2000-924975	20000511
		WO 2000-AU436	20000511
BR 2000011292	A	BR 2000-11292	20000511
		WO 2000-AU436	20000511
JP 2003501013	W	JP 2000-618319	20000511
		WO 2000-AU436	20000511

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000043858	A	Based on	WO 200069903
EP 1177212	A1	Based on	WO 200069903
BR 2000011292	A	Based on	WO 200069903
JP 2003501013	W	Based on	WO 200069903

PRIORITY APPLN. INFO: US 1999-133989P 19990513
AN 2001-031924 [04] WPIDS
AB WO 200069903 A UPAB: 20010118
NOVELTY - An isolated or recombinant immunogenic polypeptide (I) which comprises, mimics or cross-reacts with a B-cell or T-cell epitope of a Lawsonia SodC polypeptide, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a vaccine composition (II) for the prophylaxis or treatment of infection of an animal by Lawsonia comprising an immunogenic component which comprises (I), which is immunologically cross-reactive with **Lawsonia intracellularis** and one or more carriers, diluents or adjuvants suitable for veterinary or pharmaceutical use;

(2) a combination vaccine composition (III) for the prophylaxis or treatment of infection of an animal by Lawsonia comprising, a first immunogenic component which comprises (I), a second immunogenic component comprising an **antigenic L. intracellularis** peptide, polypeptide or protein and one or more carriers, diluents or adjuvants suitable for veterinary or pharmaceutical use;

(3) a vaccine vector (IV) comprising, in an expressible form, an isolated nucleic acid molecule having a nucleotide sequence that encodes an isolated or recombinant immunogenic polypeptide which comprises the sequence (S) such that the immunogenic polypeptide is expressible at a level sufficient to confer immunity against Lawsonia, when administered to a porcine or avian animal;

(4) a polyclonal or monoclonal antibody molecule (V) that is capable of binding specifically to (I);

(5) an isolated nucleic acid molecule (VI) that encodes (I), or its complement;

(6) a probe or primer (VII) having at least 15 contiguous nucleotides in length derived from the fully defined sequence of 543 base pairs (bp) as given in the specification or its complement; and

(7) a plasmid designated pALK14 (ATCC 207155).

ACTIVITY - Antibacterial.

No biological data is given.

MECHANISM OF ACTION - Vaccine.

No biological data is given.

USE - (I) is useful for diagnosing infection of a porcine or avian animal or identifying whether or not the animal has suffered from a past infection or is currently infected with **L. intracellularis** or a microorganism that is immunologically cross-reactive to it, by contacting whole serum, blood lymph nodes, ileum, caecum, small intestine, large intestine, feces or rectal swab derived from the animal with (V) or (I) for a time and under conditions sufficient for an **antigen**:antibody complex to form and detecting the complex formed. (VII) is useful for detecting

L. intracellularis or related microorganisms in a sample derived from the animal by hybridizing (VII) or its complement to the sample and then detecting the hybridization using a nucleic acid based hybridization or amplification reaction. (I) is useful in the preparation of a medicament for the treatment and prophylaxis of porcine proliferative enteropathy (PPE) in animals, particularly porcine or avian animals. (IV) is useful for producing a proteinaceous immunogenic component of (II) or (III) or is useful in a DNA vaccine. (II) and (III) are useful for treatment and/or prophylaxis of porcine and/or avian species against any bacterium belonging to the same serovar or serogroup as **L. intracellularis**.
Dwg.0/0

L7 ANSWER 11 OF 21 MEDLINE DUPLICATE 4
ACCESSION NUMBER: 2001041976 MEDLINE
DOCUMENT NUMBER: 20399396 PubMed ID: 10945299
TITLE: Immunohistochemistry and polymerase chain reaction for the detection of **Lawsonia intracellularis** in porcine intestinal tissues with proliferative enteropathy.
AUTHOR: Kim J; Choi C; Cho W S; Chae C
CORPORATE SOURCE: Department of Veterinary Pathology, College of Veterinary Medicine and School of Agricultural Biotechnology, Seoul National University, Suwon, Kyounggi-Do, Republic of Korea.
SOURCE: JOURNAL OF VETERINARY MEDICAL SCIENCE, (2000 Jul) 62 (7) 771-3.
Journal code: 9105360. ISSN: 0916-7250.
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200012
ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20001207

AB Detection method of **Lawsonia intracellularis** was studied in formalin-fixed paraffin-embedded intestinal tissues from 5 naturally infected pigs by immunohistochemistry with a monoclonal antibody against **outer membrane protein** of **L. intracellularis**. Warthin-Starry silver stain revealed clusters of argyrophilic, slightly curved rod-shaped organisms in the apical cytoplasm of enterocytes. Immunohistochemical staining with a **L. intracellularis**-specific monoclonal antibody confirmed the presence of the organism in the apical cytoplasm of hyperplastic enterocytes. The presence of **L. intracellularis** in the ileum of pig with proliferative enteropathy was confirmed by polymerase chain reaction (PCR) further on the basis of amplification of 319 base pair products specific for porcine **L. intracellularis** chromosomal DNA. Immunohistochemistry and PCR may be a complementary method to confirm the diagnosis of **L. intracellularis** infection in pigs.

L7 ANSWER 12 OF 21 MEDLINE DUPLICATE 5
ACCESSION NUMBER: 2000150299 MEDLINE

DOCUMENT NUMBER: 20150299 PubMed ID: 10684754
TITLE: Detection of **Lawsonia intracellularis** in the tonsils of pigs with proliferative enteropathy.
AUTHOR: Jensen T K; Moller K; Lindecrona R; Jorsal S E
CORPORATE SOURCE: Danish Veterinary Laboratory, Copenhagen, Denmark.
SOURCE: RESEARCH IN VETERINARY SCIENCE, (2000 Feb) 68 (1) 23-6.
Journal code: 0401300. ISSN: 0034-5288.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200003
ENTRY DATE: Entered STN: 20000407
Last Updated on STN: 20000407
Entered Medline: 20000329

AB The presence of **Lawsonia intracellularis**, the obligate intracellular bacterium causing proliferative enteropathy (PE), in the tonsils of pigs as a locus for infection or extraintestinal occurrence of the bacterium was investigated by PCR and immunohistochemistry. Tonsillar occurrence of **L. intracellularis** could be part of the pathogenesis of PE and an important risk factor in the spread of the disease. **L. intracellularis** was detected by only PCR in the tonsils of 2/32 pigs without PE at necropsy but with a clinical history of diarrhoea and detection of the bacterium in faeces 1 to 3 weeks prior to necropsy but not in four pigs with moderate PE lesions. However, **L. intracellularis** was detected in the tonsils of 4/9 pigs with PE complicated with necroses and in 4/4 pigs with proliferative haemorrhagic enteropathy in which **L. intracellularis antigen** also was demonstrated in tonsillar macrophages and as intact bacteria in the lumen of the crypts. The results show that **L. intracellularis** is detectable in the tonsils of pigs and that the tonsillar presence of **L. intracellularis** appears to be correlated to the severity of the intestinal lesions possibly as a result of local retention and not as part of the pathogenesis of PE.

L7 ANSWER 13 OF 21 SCISEARCH COPYRIGHT 2003 ISI (R)
ACCESSION NUMBER: 1999:172294 SCISEARCH
THE GENUINE ARTICLE: 169GX
TITLE: Attempted infection of mice, rats and chickens by porcine strains of **Lawsonia intracellularis**
AUTHOR: Collins A M (Reprint); Love R J; Jasni S; McOrist S
CORPORATE SOURCE: UNIV SYDNEY, DEPT VET CLIN SCI, CAMDEN, NSW 2570, AUSTRALIA (Reprint); UNIV EDINBURGH, DEPT VET PATHOL, EDINBURGH EH8 9YL, MIDLOTHIAN, SCOTLAND; VPS VETLAB, GLENSIDE, SA 5065, AUSTRALIA
COUNTRY OF AUTHOR: AUSTRALIA; SCOTLAND
SOURCE: AUSTRALIAN VETERINARY JOURNAL, (FEB 1999) Vol. 77, No. 2, pp. 120-122.
Publisher: AUSTRALIAN VETERINARY ASSN, 272 BRUNSWICK RD BRUNSWICK, MELBOURNE VIC 3056, AUSTRALIA.
ISSN: 0005-0423.

Searcher : Shears 308-4994

DOCUMENT TYPE: Article; Journal
FILE SEGMENT: AGRI
LANGUAGE: English
REFERENCE COUNT: 17

L7 ANSWER 14 OF 21 MEDLINE
ACCESSION NUMBER: 1998281713 MEDLINE
DOCUMENT NUMBER: 98281713 PubMed ID: 9620403
TITLE: Proliferative enterocolitis associated with dual infection with enteropathogenic Escherichia coli and **Lawsonia intracellularis** in rabbits.
AUTHOR: Schauer D B; McCathey S N; Daft B M; Jha S S; Tatterson L E; Taylor N S; Fox J G
CORPORATE SOURCE: Division of Comparative Medicine, Massachusetts Institute of Technology, Cambridge 02139, USA.. schauer@mit.edu
CONTRACT NUMBER: CA63112 (NCI)
RR07036 (NCRR)
SOURCE: JOURNAL OF CLINICAL MICROBIOLOGY, (1998 Jun) 36 (6) 1700-3.
Journal code: 7505564. ISSN: 0095-1137.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199807
ENTRY DATE: Entered STN: 19980811
Last Updated on STN: 19980811
Entered Medline: 19980728

AB Both enteropathogenic Escherichia coli (EPEC) and an obligate intracellular bacterium, previously referred to as an intracellular Campylobacter-like organism and now designated **Lawsonia intracellularis**, have been reported as causes of enterocolitis in rabbits. An outbreak of enterocolitis in a group of rabbits, characterized by an unusually high rate of mortality, was found to be associated with dual infection with EPEC and **L . intracellularis**. The EPEC strain was found to have eaeA gene homology but was negative for afrA homology. The absence of the afrA gene, which encodes the structural subunit for the AF/R1 pilus, indicates that this rabbit EPEC strain is distinct from the prototypic RDEC-1 strain. This finding suggests that rabbit EPEC strains widely reported in Western Europe, which lack AF/R1 pili, are also present in rabbits in the United States. Dual infection with these two pathogens in rabbits has not been previously reported and may have contributed to the unusually high mortality observed in this outbreak.

L7 ANSWER 15 OF 21 MEDLINE DUPLICATE 6
ACCESSION NUMBER: 1998348117 MEDLINE
DOCUMENT NUMBER: 98348117 PubMed ID: 9684975
TITLE: Subclinical proliferative enteropathy in sentinel rabbits associated with **Lawsonia intracellularis**.
AUTHOR: Duhamel G E; Klein E C; Elder R O; Gebhart C J
CORPORATE SOURCE: Department of Veterinary and Biomedical Sciences, University of Nebraska, Lincoln 68583-0905, USA.
SOURCE: VETERINARY PATHOLOGY, (1998 Jul) 35 (4) 300-3.

Journal code: 0312020. ISSN: 0300-9858.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199809
ENTRY DATE: Entered STN: 19981008
Last Updated on STN: 19981008
Entered Medline: 19980930

AB Light microscopic and ultrastructural changes of naturally acquired proliferative enteropathy were observed in two of three young sentinel New Zealand White rabbits. The etiologic agent, **Lawsonia intracellularis**, was demonstrated in the tissues using morphologic, immunohistochemical, and molecular methods. Proliferative enteropathy was associated with infection of villous and crypt enterocytes by intracellular organisms genotypically and **antigenically** related to **L. intracellularis** of various other animal species.

L7 ANSWER 16 OF 21 VETU COPYRIGHT 2003 THOMSON DERWENT
ACCESSION NUMBER: 1998-63015 VETU
TITLE: Control of infectious enteric diseases of swine.
AUTHOR: Lanza I
CORPORATE SOURCE: Elanco
LOCATION: Madrid, Esp.
SOURCE: Proc.Int.Pig Vet.Soc.Congress (15 Meet., Pt. 1, 79-85, 1998) 1 Fig. 45 Ref.
AVAIL. OF DOC.: Elanco Sanidad Animal, Madrid, Spain.
LANGUAGE: English
DOCUMENT TYPE: Journal
FIELD AVAIL.: AB; LA; CT
AN 1998-63015 VETU
AB The control of infectious enteric diseases in pigs is reviewed, with respect to transmissible gastroenteritis (TGE), porcine epidemic diarrhea (PED), rotavirus infection, colibacillosis (caused by enterotoxigenic E. coli), coccidiosis (Isospora suis), salmonellosis (Salm. typhimurium or derby), Clostr. perfringens infection, swine dysentery (Serpulina hyodysenteriae), colonic spirochaetosis (S. pilosicoli), porcine proliferative enteropathy (**Lawsonia intracellularis**). Control involves the pig herd (maintain free of disease by controlling new stock), farm management practices (good hygiene, pig flow), the vaccination program and strategic medications. The aim is to reduce the incidence of the disease to the lowest levels possible, thus making the use of therapeutic medication to cure sick animals rare. (conference paper).

ABEX If TGE strikes neonates can be protected by raising the immune status of the sow by exposure to virus and production of antibodies in colostrum and milk. PED experimental attenuated vaccines show promise. Rotavirus is usually endemic; environmental virus levels should be kept low and passive transfer of immunity from the dam should be maximized by vaccines. Vaccination of pregnant sows with appropriate serotype vaccines will protect the neonate against E. coli. Postweaning, edema disease can be controlled by verotoxin toxoids but parenteral fimbrial **antigen** vaccines are not effective. Probiotics, antibiotics (apramycin, colistin, neomycin), organic acids or zinc oxide can be added to weaner feed. Anticoccidial therapy of piglets before diarrhea occurs helps

control coccidiosis. Supportive rehydration and mass medication helps against Salm.; killed vaccines are of little use; continuous in-feed antibiotics are not recommended. C. perfringens type C necrotic enteritis is controlled by vaccination of pregnant sows; antitoxin can be helpful. Vaccines do not contain toxins against type A enteritis; colostrum is usually effective in neonates, and in weaned pigs an antibiotic in feed is effective. S. hyodysenteriae shows resistance to dimetridazole and lincomycin; carbadox, tiamulin and pleuromulins are better. Bivalent inactivated vaccines reduce symptoms and induce a lactogenic immunity. **L. intracellularis** cannot be eradicated but in feed tylosin, tiamulin or chlortetracycline can control it.

L7 ANSWER 17 OF 21 MEDLINE DUPLICATE 7
ACCESSION NUMBER: 97370587 MEDLINE
DOCUMENT NUMBER: 97370587 PubMed ID: 9226893
TITLE: Comparison of the 16S ribosomal DNA sequences from the intracellular agents of proliferative enteritis in a hamster, deer, and ostrich with the sequence of a porcine isolate of **Lawsonia intracellularis**.
AUTHOR: Cooper D M; Swanson D L; Barns S M; Gebhart C J
CORPORATE SOURCE: Division of Comparative Medicine, Research Animal Resources, Medical School, University of Minnesota, Minneapolis 55455, USA.
SOURCE: INTERNATIONAL JOURNAL OF SYSTEMATIC BACTERIOLOGY, (1997 Jul) 47 (3) 635-9.
Journal code: 0042143. ISSN: 0020-7713.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-U65995; GENBANK-U65996; GENBANK-U65997; GENBANK-U65998
ENTRY MONTH: 199708
ENTRY DATE: Entered STN: 19970908
Last Updated on STN: 19990129
Entered Medline: 19970826

AB Proliferative enteritis is an enteric disease that affects a variety of animals. The causative agent in swine has been determined to be an obligate intracellular bacterium, **Lawsonia intracellularis**, related to the sulfate-reducing bacterium Desulfovibrio desulfuricans. The intracellular agents found in the lesions of different animal species are **antigenically** similar. In addition, strains from the pig, ferret, and hamster have been shown to be genetically similar. In this study we performed a partial 16S ribosomal DNA sequence analysis on the intracellular agent of proliferative enteritis from a hamster, a deer, and an ostrich and compared these sequences to that of the porcine **L. intracellularis** isolate. Results of this study indicate that the intracellular agents from these species with proliferative enteritis have high sequence similarity, indicating that they are all in the genus Lawsonia and that they may also be the same species, **L. intracellularis**.

L7 ANSWER 18 OF 21 MEDLINE
ACCESSION NUMBER: 97254956 MEDLINE

DOCUMENT NUMBER: 97254956 PubMed ID: 9100338
TITLE: In-vitro interactions of **Lawsonia intracellularis** with cultured enterocytes.
AUTHOR: McOrist S; Mackie R A; Lawson G H; Smith D G
CORPORATE SOURCE: Department of Veterinary Pathology, University of Edinburgh, Easter Bush, Midlothian, UK.
SOURCE: VETERINARY MICROBIOLOGY, (1997 Mar) 54 (3-4) 385-92. Journal code: 7705469. ISSN: 0378-1135.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199706
ENTRY DATE: Entered STN: 19970630
Last Updated on STN: 20000303
Entered Medline: 19970619

AB Strains of the obligately intracellular bacterium **Lawsonia intracellularis**, the etiologic agent of porcine proliferative enteropathy, were co-cultured in rat enterocyte cell cultures (IEC-18) and examined ultrastructurally. No regular surface arrays typical of surface or S-layers were visible on any bacterial strain, with or without Triton-X-100 detergent treatment. In separate experiments, there was no difference in the ability of **L. intracellularis** to attach and enter enterocytes with or without the presence of added bovine plasma fibronectin, or the peptide Arg-Gly-Ser. Interestingly, there was an increase in the invasiveness of **L. intracellularis** in the presence of the peptide Arg-Gly-Asp (RGD), in a dose-related manner. A reduction was observed in the ability of **L. intracellularis** to invade enterocytes in the presence of monovalent fragments of IgG monoclonal antibodies to an outer surface component of **L. intracellularis**. This neutralization showed an antibody concentration-dependent titration effect and was not apparent with co-cultures incorporating control antibodies. The exact nature of ligand and cell receptor interactions for **L. intracellularis** remain to be determined.

L7 ANSWER 19 OF 21 MEDLINE DUPLICATE 8
ACCESSION NUMBER: 97218646 MEDLINE
DOCUMENT NUMBER: 97218646 PubMed ID: 9066083
TITLE: Intracellular Campylobacter-like organisms associated with rectal prolapse and proliferative enteroproctitis in emus (Dromaius novaehollandiae).
AUTHOR: Lemarchand T X; Tully T N Jr; Shane S M; Duncan D E
CORPORATE SOURCE: Department of Pathology, School of Veterinary Medicine, Louisiana State University, Baton Rouge 70803, USA.
SOURCE: VETERINARY PATHOLOGY, (1997 Mar) 34 (2) 152-6. Journal code: 0312020. ISSN: 0300-9858.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199705
ENTRY DATE: Entered STN: 19970602
Last Updated on STN: 20000303
Entered Medline: 19970522

AB Rectal prolapse was the presenting clinical finding in a group of juvenile emus (Dromaius novaehollandiae). Gross findings included severely thickened and rugose distal rectal mucosae. Histologically, there were thickened villi, enterocyte hyperplasia, dilated glands filled with mucus and heterophils, and a dense infiltrate of heterophils, macrophages, lymphocytes, and plasma cells in the lamina propria. Examination of Warthin-Starry silver-stained sections revealed numerous apically located comma-shaped intracytoplasmic bacteria approximately 1 x 3 microns in size. Campylobacter-like organisms morphologically compatible with ileal symbiont intracellularis now known as **Lawsonia intracellularis** were seen via electron microscopy. Bacteria were further characterized by indirect immunofluorescence using monoclonal antibody specific for the 25-27-kd **outer membrane protein** of **L. intracellularis**.

L7 ANSWER 20 OF 21 CABA COPYRIGHT 2003 CABI
ACCESSION NUMBER: 96:105329 CABA
DOCUMENT NUMBER: 962209126
TITLE: The pathogenesis of necrotic proliferative colitis in swine is linked to whipworm induced suppression of mucosal immunity to resident bacteria
AUTHOR: Mansfield, L. S.; Urban, J. F., Jr.
CORPORATE SOURCE: College of Veterinary Medicine, Michigan State University, East Lansing, MI 48824, USA.
SOURCE: Veterinary Immunology and Immunopathology, (1996) Vol. 50, No. 1/2, pp. 1-17. 30 ref. ISSN: 0165-2427
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The pathogenesis of mucohaemorrhagic enteritis syndrome was investigated using 4 groups of pigs. Group 1 were inoculated with 2500 embryonated Trichuris suis eggs alone, while group 2 received T. suis eggs along with broad spectrum antibiotic treatment. Two control groups were not inoculated and were either treated with antibiotic or untreated. Group 1 pigs exhibited diarrhoea, mucosal oedema, inflammatory cell infiltration, bacterial accumulation at the site of worm attachment in the proximal colon, and intestinal adenomatosis associated with the intracellular Ileal symbiont intracellularis [**Lawsonia intracellularis**] bacteria. In addition, enlarged lymphoglandular complexes (LGCs) containing numerous extracellular bacteria, eosinophils, lymphocytes, macrophages and neutrophils were observed in the distal colon. Group 2 pigs had lesions localized to the site of worm attachment and histologically normal LGCs with no invasive bacteria in the distal colon. The control pigs, with or without antibiotic treatment, exhibited no pathology or bacterial invasion. It is concluded that the complex pathogenesis of necrotic proliferative colitis in pigs may be linked to worm induced suppression of mucosal immunity to resident bacteria. The association between bacteria, lymphocytes and macrophages in the LGCs of group 1 pigs suggests an **antigen**-processing role for these structures in the colon.

L7 ANSWER 21 OF 21 MEDLINE DUPLICATE 9
ACCESSION NUMBER: 85081914 MEDLINE
DOCUMENT NUMBER: 85081914 PubMed ID: 6096477

TITLE: Inherited deficiency of the Mac-1, LFA-1, p150,95 glycoprotein family and its molecular basis.
AUTHOR: Springer T A; Thompson W S; Miller L J; Schmalstieg F C; Anderson D C
CONTRACT NUMBER: AI 19031 (NIAID)
CA 31798 (NCI)
CA 31799 (NCI)
SOURCE: JOURNAL OF EXPERIMENTAL MEDICINE, (1984 Dec 1) 160 (6) 1901-18.
Journal code: 2985109R. ISSN: 0022-1007.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198501
ENTRY DATE: Entered STN: 19900320
Last Updated on STN: 19970203
Entered Medline: 19850128

AB Leukocyte surface glycoproteins that share a common beta subunit have been found to be congenitally deficient in three unrelated patients with recurring bacterial infection. The glycoproteins, Mac-1, LFA-1, and p150,95, have the subunit compositions alpha M beta, alpha L beta, and alpha X beta, respectively. Using subunit-specific monoclonal antibodies, both the alpha M and beta subunits of Mac-1, the alpha L and beta subunits of LFA-1, and at the least the beta subunit of p150,95, were found to be deficient at the cell surface by the techniques of immunofluorescence flow cytometry, radioimmunoassay, and immunoprecipitation. A latent pool of Mac-1 that can be expressed on granulocyte surfaces in response to secretory stimuli, such as f-Met-Leu-Phe, was also lacking in patients. Deficiency was found on all leukocytes tested, including granulocytes, monocytes, and T and B lymphocytes. Quantitation by immunofluorescence cytometry of subunits on granulocytes from parents of these patients and of a fourth deceased patient showed approximately half-normal surface expression, and, together with data on other siblings and a family with an affected father and children, demonstrate autosomal recessive inheritance. Deficiency appears to be quantitative rather than qualitative, with two patients expressing approximately 0.5% and one patient approximately 5% of normal amounts. The latter patient had alpha beta complexes on the cell surface detectable by immunoprecipitation. Biosynthesis experiments showed the presence of normal amounts of alpha'**L intracellular** precursor in lymphoid lines of all three patients. Together with surface deficiency of three molecules that share a common beta subunit but have differing alpha subunits, this suggests the primary deficiency is of the beta subunit. The lack of maturation of alpha'L to alpha L and the deficiency of the alpha subunits at the cell surface and in latent pools suggests that association with the beta subunit is required for alpha subunit processing and transport to the cell surface or to latent pools. The molecular basis of this disease is discussed in light of adhesion-related functional abnormalities in patients' leukocytes and the blockade of similar functions in healthy cells by monoclonal antibodies.

(FILE 'MEDLINE' ENTERED AT 11:23:21 ON 10 APR 2003)
L8 15 SEA FILE=MEDLINE ABB=ON PLU=ON LAWSONIA/CT
L9 48331 SEA FILE=MEDLINE ABB=ON PLU=ON ANTIGENS/CT

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L10           0 SEA FILE=MEDLINE ABB=ON  PLU=ON  L8 AND L9


L8           15 SEA FILE=MEDLINE ABB=ON  PLU=ON  LAWSONIA/CT
L11        9492 SEA FILE=MEDLINE ABB=ON  PLU=ON  "BACTERIAL OUTER
                MEMBRANE PROTEINS"/CT
L12           0 SEA FILE=MEDLINE ABB=ON  PLU=ON  L8 AND L11


L8           15 SEA FILE=MEDLINE ABB=ON  PLU=ON  LAWSONIA/CT
L13        6043 SEA FILE=MEDLINE ABB=ON  PLU=ON  VACCINES/CT
L14           0 SEA FILE=MEDLINE ABB=ON  PLU=ON  L8 AND L13

     FILE 'USPATFULL' ENTERED AT 11:26:03 ON 10 APR 2003
L15          13 SEA ABB=ON  PLU=ON  ((LAWSON? OR L)(W)INTRACELL?)(L)(OMP
                OR OUTER MEMBRAN? PROTEIN OR ANTIGEN##)

L15  ANSWER 1 OF 13  USPATFULL
ACCESSION NUMBER:        2003:29860  USPATFULL
TITLE:                   Lawsonia intracellularis proteins, and related
                         methods and materials
INVENTOR(S):             Rosey, Everett L., Preston, CT, UNITED STATES

                              NUMBER        KIND    DATE
                         ---------------- ------ --------
PATENT INFORMATION:      US 2003021802      A1   20030130
APPLICATION INFO.:       US 2002-210296     A1   20020801  (10)
RELATED APPLN. INFO.:    Continuation of Ser. No. US 2000-689065, filed on
                         12 Oct 2000, PENDING

                              NUMBER         DATE
                         ------------------ --------
PRIORITY INFORMATION:    US 1999-160922P    19991022 (60)
                         US 1999-163858P    19991105 (60)
DOCUMENT TYPE:           Utility
FILE SEGMENT:            APPLICATION
LEGAL REPRESENTATIVE:    KOHN & ASSOCIATES, PLLC, SUITE 410, 30500
                         NORTHWESTERN HWY., FARMINGTON HILLS, MI, 48334
NUMBER OF CLAIMS:        20
EXEMPLARY CLAIM:         1
NUMBER OF DRAWINGS:      8 Drawing Page(s)
LINE COUNT:              3947
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB     Isolated polynucleotide molecules contain a nucleotide sequence
       that encodes a L. intracellularis HtrA, PonA, HypC, LysS, YcfW,
       ABC1, or Omp100 protein, a substantial portion of the sequences,
       or a homologous sequence. Related polypeptides, immunogenic
       compositions and assays are described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL   INCLM: 424/190.100
       INCLS: 435/219.000; 435/320.100; 435/252.300; 536/023.200;
              435/069.300
NCL    NCLM:  424/190.100
       NCLS:  435/219.000; 435/320.100; 435/252.300; 536/023.200;
              435/069.300

L15  ANSWER 2 OF 13  USPATFULL
```

ACCESSION NUMBER: 2002:251933 USPATFULL
TITLE: Protein scaffold and its use to multimerise monomeric polypeptides
INVENTOR(S): Hill, Fergal Conan, Les Martres de Veyre, FRANCE
Chatellier, Jean, Les Martres de Veyre, FRANCE
Fersht, Alan Roy, Cambridge, UNITED KINGDOM

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002137891	A1	20020926
APPLICATION INFO.:	US 2001-7628	A1	20011108 (10)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 2000-GB1815, filed on 5 Dec 2000, UNKNOWN

	NUMBER	DATE
PRIORITY INFORMATION:	GB 1999-11298	19990514
	GB 1999-28788	19991203
	GB 1999-28831	19991206

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: FROMMER LAWRENCE & HAUG, 745 FIFTH AVENUE- 10TH FL., NEW YORK, NY, 10151
NUMBER OF CLAIMS: 36
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 12 Drawing Page(s)
LINE COUNT: 2025
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to polypeptide monomer capable of oligomerisation, said monomer comprising a heterologous amino acid sequence inserted into the sequence of a subunit of an oligomerisable protein scaffold.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 530/350.000
INCLS: 514/012.000; 514/013.000; 514/014.000; 514/015.000; 514/021.000; 536/023.400
NCL NCLM: 530/350.000
NCLS: 514/012.000; 514/013.000; 514/014.000; 514/015.000; 514/021.000; 536/023.400

L15 ANSWER 3 OF 13 USPATFULL
ACCESSION NUMBER: 2002:136784 USPATFULL
TITLE: Staphylococcus aureus genes and polypeptides
INVENTOR(S): Bailey, Camella, Washington, DC, United States
Choi, Gil H., Rockville, MD, United States
PATENT ASSIGNEE(S): Human Genome Sciences, Inc., Rockville, MD, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6403337	B1	20020611
APPLICATION INFO.:	US 2000-512255		20000224 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 1999-US19726, filed on 31 Aug 1999 Continuation-in-part of Ser. No. US 1997-956171, filed on 20 Oct 1997 Continuation-in-part of Ser. No. US 1997-781986, filed on 3 Jan 1997 Continuation-in-part of Ser.

No. US 1997-781986, filed on 5 Jan 1997
Continuation-in-part of Ser. No. US 1997-781986, filed on 5 Jan 1997
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Brusca, John S.
LEGAL REPRESENTATIVE: Human Genome Sciences, Inc.
NUMBER OF CLAIMS: 65
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT: 6784
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to novel genes from S. aureus and the polypeptides they encode. Also provided as are vectors, host cells, antibodies and recombinant methods for producing the same. The invention further relates to screening methods for identifying agonists and antagonists of S. aureus polypeptide activity. The invention additionally relates to diagnostic methods for detecting Staphylococcus nucleic acids, polypeptides and antibodies in a biological sample. The present invention further relates to novel vaccines for the prevention or attenuation of infection by Staphylococcus.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/069.700
INCLS: 435/468.000; 435/252.300; 435/320.100; 536/023.700
NCL NCLM: 435/069.700
NCLS: 435/252.300; 435/320.100; 435/468.000; 536/023.700

L15 ANSWER 4 OF 13 USPATFULL
ACCESSION NUMBER: 2002:61250 USPATFULL
TITLE: Methods of treating hepatitis delta virus infection with beta-l-2'-deoxy-nucleosides
INVENTOR(S): Sommadossi, Jean-Pierre, Birmingham, AL, UNITED STATES
Bryant, Martin L., Carlisle, MA, UNITED STATES

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2002035085	A1	20020321	
APPLICATION INFO.:	US 2001-867110	A1	20010529	(9)

	NUMBER	DATE	
PRIORITY INFORMATION:	US 2000-207538P	20000526	(60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: KING & SPALDING, 191 PEACHTREE STREET, N.E., ATLANTA, GA, 30303-1763
NUMBER OF CLAIMS: 23
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 5 Drawing Page(s)
LINE COUNT: 2315
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method and composition for treating a host infected with hepatitis D comprising administering an effective hepatitis D treatment amount of a described 2'-deoxy-.beta.-L-erythro-pentofuranonucleoside or a pharmaceutically acceptable salt or

prodrug thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 514/045.000
INCLS: 514/046.000; 514/050.000; 514/047.000; 514/048.000; 514/051.000
NCL NCLM: 514/045.000
NCLS: 514/046.000; 514/050.000; 514/047.000; 514/048.000; 514/051.000

L15 ANSWER 5 OF 13 USPATFULL
ACCESSION NUMBER: 2000:149713 USPATFULL
TITLE: Methods for modulating T cell survival by modulating bcl-X.sub.L protein level
INVENTOR(S): June, Carl H., 7 Harlow Ct., Rockville, MD, United States 20850
Thompson, Craig B., 1375 E. 57th St., Chicago, IL, United States 60637

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6143291		20001107
APPLICATION INFO.:	US 1995-481739		19950607 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1995-435518, filed on 4 May 1995, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Hauda, Karen M.
LEGAL REPRESENTATIVE: Lahive & Cockfield, LLP
NUMBER OF CLAIMS: 5
EXEMPLARY CLAIM: 1,3
NUMBER OF DRAWINGS: 21 Drawing Figure(s); 13 Drawing Page(s)
LINE COUNT: 2507
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods for protecting a T cell from cell death are described. The methods involve contacting the T cell with an agent which augments the bcl-X.sub.L protein level in the T cell such that it is protected from cell death. The invention further pertains to methods for increasing the susceptibility of a T cell to cell death, comprising contacting the T cell with at least one agent which decreases bcl-X.sub.L protein level in the T cell. Both in vivo and in vitro methods are described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 424/093.210
INCLS: 435/375.000; 435/320.100; 435/172.300
NCL NCLM: 424/093.210
NCLS: 435/320.100; 435/375.000; 435/455.000

L15 ANSWER 6 OF 13 USPATFULL
ACCESSION NUMBER: 1999:36943 USPATFULL
TITLE: Lawsonia intracellularis cultivation, anti-Lawsonia intracellularis vaccines and diagnostic agents
INVENTOR(S): Knittel, Jeffrey P., Ames, IA, United States
Roof, Michael B., Ames, IA, United States
PATENT ASSIGNEE(S): NOBL Laboratories, Inc., Sioux Center, IA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5885823		19990323
APPLICATION INFO.:	US 1996-658194		19960604 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1995-465337, filed on 5 Jun 1995, now patented, Pat. No. US 5714375
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Hutzell, Paula K.
ASSISTANT EXAMINER: Masood, Khalid
LEGAL REPRESENTATIVE: Dickstein Shapiro Morin & Oshinsky LLP
NUMBER OF CLAIMS: 17
EXEMPLARY CLAIM: 1
LINE COUNT: 1540
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for large scale cultivation and attenuation of L. intracellularis bacteria by inoculating cells with L. intracellularis bacteria to infect the cells, incubating the infected cells in a reduced oxygen concentration and maintaining the infected cells in suspension. Anti-L. intracellularis vaccines are prepared from cultures grown in suspension. Diagnostic agents are also disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/243.000
INCLS: 435/245.000; 435/252.100; 435/366.000; 435/383.000; 435/395.000; 435/403.000; 424/093.400; 424/234.100; 424/825.000
NCL NCLM: 435/243.000
NCLS: 424/093.400; 424/234.100; 424/825.000; 435/245.000; 435/252.100; 435/366.000; 435/383.000; 435/395.000; 435/403.000

L15 ANSWER 7 OF 13 USPATFULL
ACCESSION NUMBER: 1998:65267 USPATFULL
TITLE: Method of treating catabolic, gut-associated pathological processes and impaired host defenses
INVENTOR(S): Smith, Robert J., Brookline, MA, United States
Wilmore, Douglas, Brookline, MA, United States
PATENT ASSIGNEE(S): Brigham and Women's Hospital, Boston, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5763485		19980609
APPLICATION INFO.:	US 1995-402827		19950313 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1993-51941, filed on 26 Apr 1993, now patented, Pat. No. US 5397803, issued on 14 Mar 1995 which is a continuation of Ser. No. US 1993-845819, filed on 9 Mar 1993, now abandoned which is a continuation-in-part of Ser. No. US 1989-360839, filed on 2 Jun 1989, now abandoned which is a continuation-in-part of Ser. No. US 1986-906530, filed on 12 Sep 1986, now patented, Pat. No. US 4857555 which is a continuation-in-part of Ser. No. US 1985-775214,

filed on 12 Sep 1985, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Raymond, Richard L.
LEGAL REPRESENTATIVE: Sterne, Kessler, Goldstein & Fox P.L.L.C.
NUMBER OF CLAIMS: 5
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 12 Drawing Figure(s); 9 Drawing Page(s)
LINE COUNT: 4313
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to a method for treating catabolic, gut-associated pathological processes including intestinal mucosal and pancreatic atrophy and enhanced gut permeability, impairment of host defenses and compromised immune function, and for promoting recovery from bone marrow transplantation in an animal, which comprises administering to an animal a therapeutically effective amount of glutamine or an analogue thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 514/563.000
NCL NCLM: 514/563.000

L15 ANSWER 8 OF 13 USPATFULL
ACCESSION NUMBER: 97:101796 USPATFULL
TITLE: Method of treating pancreatic atrophy
INVENTOR(S): Smith, Robert J., Brookline, MA, United States
Wilmore, Douglas, Brookline, MA, United States
PATENT ASSIGNEE(S): Brigham and Women's Hospital, Boston, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5684045		19971104
APPLICATION INFO.:	US 1996-643937		19960507 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1995-402827, filed on 13 Mar 1995 which is a division of Ser. No. US 1993-51941, filed on 26 Apr 1993, now patented, Pat. No. US 5397803 which is a continuation-in-part of Ser. No. US 1992-845819, filed on 9 Mar 1992, now abandoned which is a continuation-in-part of Ser. No. US 1989-360839, filed on 2 Jun 1989, now abandoned which is a continuation-in-part of Ser. No. US 1986-906530, filed on 12 Sep 1986, now patented, Pat. No. US 4857555 which is a continuation-in-part of Ser. No. US 1985-775214, filed on 12 Sep 1985, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Raymond, Richard L.
NUMBER OF CLAIMS: 4
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 12 Drawing Figure(s); 9 Drawing Page(s)
LINE COUNT: 4178
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to a method for treating catabolic, gut-associated pathological processes including intestinal mucosal and pancreatic atrophy and enhanced gut permeability, impairment

of host defenses and compromised immune function, and for promoting recovery from bone marrow transplantation in an animal, which comprises administering to an animal a therapeutically effective amount of glutamine or an analogue thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 514/563.000
NCL NCLM: 514/563.000

L15 ANSWER 9 OF 13 USPATFULL
ACCESSION NUMBER: 97:18200 USPATFULL
TITLE: Method of treating catabolic, gut-associated pathological processes and impaired host defenses
INVENTOR(S): Smith, Robert J., Brookline, MA, United States
Wilmore, Douglas, Brookline, MA, United States
PATENT ASSIGNEE(S): Brigham and Women's Hospital, Boston, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5607975		19970304
APPLICATION INFO.:	US 1996-643939		19960507 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1995-402827, filed on 13 Mar 1995 which is a division of Ser. No. US 1993-51941, filed on 26 Apr 1993, now patented, Pat. No. US 5397803 which is a continuation-in-part of Ser. No. US 1992-845819, filed on 9 Mar 1992, now abandoned which is a continuation-in-part of Ser. No. US 1989-360839, filed on 2 Jun 1989, now abandoned which is a continuation-in-part of Ser. No. US 1986-906530, filed on 12 Sep 1986, now patented, Pat. No. US 4857555 which is a continuation-in-part of Ser. No. US 1985-775214, filed on 12 Sep 1985, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Raymond, Richard L.
LEGAL REPRESENTATIVE: Sterne, Kessler, Goldstein & Fox P.L.L.C.
NUMBER OF CLAIMS: 5
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 12 Drawing Figure(s); 9 Drawing Page(s)
LINE COUNT: 4339
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to a method for treating catabolic, gut-associated pathological processes including intestinal mucosal and pancreatic atrophy and enhanced gut permeability, impairment of host defenses and compromised immune function, and for promoting recovery from bone marrow transplantation in an animal, which comprises administering to an animal a therapeutically effective amount of glutamine or an analogue thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 514/563.000
NCL NCLM: 514/563.000

L15 ANSWER 10 OF 13 USPATFULL
ACCESSION NUMBER: 95:22925 USPATFULL

TITLE: Use of glutamine to reduce rate of pathogenic microorganism infection
INVENTOR(S): Smith, Robert J., Brookline, MA, United States
Wilmore, Douglas, Brookline, MA, United States
PATENT ASSIGNEE(S): Brigham and Women's Hospital, Boston, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5397803		19950314
APPLICATION INFO.:	US 1993-51941		19930426 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1992-845819, filed on 9 Mar 1992, now abandoned which is a continuation-in-part of Ser. No. US 1989-360839, filed on 2 Jun 1989, now abandoned which is a continuation-in-part of Ser. No. US 1986-906530, filed on 12 Sep 1986, now patented, Pat. No. US 4857555 which is a continuation-in-part of Ser. No. US 1985-775214, filed on 12 Sep 1985, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Raymond, Richard L.
LEGAL REPRESENTATIVE: Sterne, Kessler, Goldstein & Fox
NUMBER OF CLAIMS: 5
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 12 Drawing Figure(s); 9 Drawing Page(s)
LINE COUNT: 4187
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to a method for treating catabolic, gut-associated pathological processes including intestinal mucosal and pancreatic atrophy and enhanced gut permeability, impairment of host defenses and compromised immune function, and for promoting recovery from bone marrow transplantation in an animal, which comprises administering to an animal a therapeutically effective amount of glutamine or an analogue thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 514/563.000
NCL NCLM: 514/563.000

L15 ANSWER 11 OF 13 USPATFULL
ACCESSION NUMBER: 94:47041 USPATFULL
TITLE: Polynucleotides that encode the human proteoglycan peptide core of the effector cells of the immune response
INVENTOR(S): Stevens, Richard L., Sudbury, MA, United States
Weis, John H., Salt Lake City, UT, United States
Nicodemus, Christopher F., Franconia, NH, United States
PATENT ASSIGNEE(S): Brigham And Women's Hospital, Boston, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5317085		19940531
APPLICATION INFO.:	US 1992-909644		19920707 (7)

RELATED APPLN. INFO.: Division of Ser. No. US 1991-635544, filed on 18

Jan 1991, now patented, Pat. No. US 5171674 which is a continuation-in-part of Ser. No. US 1988-224035, filed on 13 Jul 1988, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Patterson, Jr., Charles L.
ASSISTANT EXAMINER: Bugaisky, Gabriele E.
LEGAL REPRESENTATIVE: Sterne, Kessler, Goldstein & Fox
NUMBER OF CLAIMS: 2
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 8 Drawing Figure(s); 9 Drawing Page(s)
LINE COUNT: 1550
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention relates to the identification, characterization, and sequencing of genetic sequences of human secretory granule proteoglycan peptide core protein, recombinant DNA clones directed against this sequence and against the sequence of the antisense RNA, and antibodies which recognize the native human secretory granule proteoglycan.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 530/326.000
INCLS: 530/806.000; 530/300.000
NCL NCLM: 530/326.000
NCLS: 530/300.000; 530/806.000

L15 ANSWER 12 OF 13 USPATFULL
ACCESSION NUMBER: 92:102990 USPATFULL
TITLE: Polynucleotides that encode the human proteoglycan peptide core of the effector cells of the immune response
INVENTOR(S): Stevens, Richard L., Sudbury, MA, United States
Weis, John H., Salt Lake City, UT, United States
Nicodemus, Christopher F., Franconia, NH, United States
PATENT ASSIGNEE(S): Brigham and Women's Hospital, Boston, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5171674		19921215	
APPLICATION INFO.:	US 1991-635544		19910118	(7)
	WO 1989-US3051		19890713	
			19910119	PCT 371 date
			19910119	PCT 102(e) date

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1988-224035, filed on 13 Jul 1988, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Wax, Robert A.
ASSISTANT EXAMINER: Bugaisky, Gabriele E.
LEGAL REPRESENTATIVE: Sterne, Kessler, Goldstein & Fox
NUMBER OF CLAIMS: 9
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 8 Drawing Figure(s); 9 Drawing Page(s)
LINE COUNT: 1546
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention relates to the identification, characterization,

and sequencing of genetic sequences of human secretory granule proteoglycan peptide core protein, recombinant DNA clones directed against this sequence and against the sequence of the antisense RNA, and antobodies which recognize the native human secretory granule proteoglycan.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/069.100
INCLS: 435/070.100; 435/320.100; 435/240.100; 435/240.200; 435/252.300; 435/252.330; 536/027.000; 935/066.000; 935/070.000; 935/072.000
NCL NCLM: 435/069.100
NCLS: 435/070.100; 435/252.300; 435/252.330; 435/320.100; 435/355.000

L15 ANSWER 13 OF 13 USPATFULL
ACCESSION NUMBER: 92:20916 USPATFULL
TITLE: Generation and selection of novel DNA-binding proteins and polypeptides
INVENTOR(S): Ladner, Robert C., Ijamsville, MD, United States
Guterman, Sonia K., Belmont, MA, United States
Kent, Rachel B., Wilmington, MA, United States
Ley, Arthur C., Newton, MA, United States
PATENT ASSIGNEE(S): Protein Engineering Corporation, Cambridge, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5096815		19920317	
APPLICATION INFO.:	US 1989-293980		19890106	(7)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Schwartz, Richard A.
ASSISTANT EXAMINER: Ulm, John D.
LEGAL REPRESENTATIVE: Cooper, Iver P.
NUMBER OF CLAIMS: 42
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 12 Drawing Figure(s); 12 Drawing Page(s)
LINE COUNT: 8344
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Novel DNA-binding proteins, especially repressors of gene expression, are obtained by variegation of genes encoding known binding protein and selection for proteins binding the desired target DNA sequence. A novel selection vector is used to reduce artifacts. Heterooligimeric proteins which bind to a target DNA sequence which need not be palindromic are obtained by a variety of methods, e.g., variegation to obtain proteins binding symmetrized forms of the half-targets and heterodimerization to obtain a protein binding the entire asymmetric target.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/069.100
INCLS: 435/172.300; 435/252.300; 435/320.100
NCL NCLM: 435/069.100
NCLS: 435/252.300; 435/320.100

(FILE 'HCAPLUS, MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO, CABA, AGRICOLA, VETU, VETB, USPATFULL' ENTERED

AT 11:27:21 ON 10 APR 2003)
L16 5298 S "JACOBS A"?/AU
L17 458 S "VERMEIJ P"?/AU
L18 2 S L16 AND L17
L19 5754 S L16 OR L17
L20 2 S L19 AND INTRACELLULARIS
L21 2 S L18 OR L20
L22 1 DUP REM L21 (1 DUPLICATE REMOVED)

- Author(S)

L22 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 1
ACCESSION NUMBER: 2002:503432 HCAPLUS
DOCUMENT NUMBER: 137:77871
TITLE: Cloning of genes for novel Lawsonia **intracellularis** outer membrane proteins and their use in preparing vaccines for porcine proliferative enteropathy
INVENTOR(S): **Jacobs, Antonius A. C.; Vermeij, Paul**
PATENT ASSIGNEE(S): Akzo Nobel N.V., Neth.
SOURCE: Eur. Pat. Appl., 26 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1219711	A2	20020703	EP 2001-204919	20011214
EP 1219711	A3	20021106		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2003000276	A2	20030107	JP 2001-385373	20011219
AU 2001097371	A5	20020627	AU 2001-97371	20011220

PRIORITY APPLN. INFO.: EP 2000-204660 A 20001220

AB The present invention relates i.a. to nucleic acid sequences encoding novel Lawsonia **intracellularis** proteins. It furthermore relates to DNA fragments, recombinant DNA mols. and live recombinant carriers comprising these sequences. Also it relates to host cells comprising such nucleic acid sequences, DNA fragments, recombinant DNA mols. and live recombinant carriers. Moreover, the invention relates to proteins encoded by these nucleotide sequences. The invention also relates to vaccines for combating Lawsonia **intracellularis** infections and methods for the prepn. thereof. Finally the invention relates to diagnostic tests for the detection of Lawsonia **intracellularis** DNA, the detection of Lawsonia **intracellularis** antigens and of antibodies against Lawsonia **intracellularis**.

FILE 'HOME' ENTERED AT 11:28:46 ON 10 APR 2003